An Address

ON

THE DIAGNOSIS AND MANAGEMENT OF DOUBTFUL CASES OF DIPHTHERIA.

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MR. PRESIDENT AND GENTLEMEN,—Apart from its purely scientific aspect the diagnosis of any infective illness possesses a special interest for the practitioner of medicine in view of the various measures of a preventive character which he may feel called upon to adopt. And to the members of this society who, in virtue of their office, are held responsible for the health of our large schools, each of which may be regarded as an aggregation of particularly susceptible subjects, the remark applies with special force. The medical officer to a large public school is so frequently called upon to decide as to the nature of doubtful cases of infectious illness, and the issues dependent upon his decision are in some instances so important, that he must necessarily have devoted a good deal of anxious thought and critical consideration to the elucidation of such questions. Fully realising this, I feel no small diffidence in addressing a society, most of the members of which, by reason of their special knowledge and experience, apart from their high scientific attainments, must rightly be regarded as experts, and I take this opportunity of expressing my appreciation of the honour you have done me in asking me to open this discussion. For the purpose of discussing the subject with which we are concerned this afternoon—viz., the diagnosis and management of doubtful cases of diphtheria—I would first direct your attention to the all-important question of diagnosis and afterwards to the consideration of the measures of a preventive character which have for their object the limitation of the spread of infection.

A well-developed attack of diphtheria in which definite membranous exudation is visible on the fauces is not likely either to escape recognition or to be mistaken for anything else. It is quite otherwise, however, in respect to those sore throats in which no exudation at all can be detected or at most a little cheesy deposit on the site of the follicular crypts, or perhaps one or more small necrotic-looking areas on the surface of the tonsils. The real nature of such cases is often very difficult to determine on clinical evidence alone. The same thing is true in respect to purely nasal diphtheria, which is very likely to escape detection altogether, especially when, as is usually the case, the patient presents but little if any indication of illness. It is to the purely nasal cases that I am referring. Instances in which the nasal cavities are involved, either by extension, or concurrently with the fauces, are, as is well known, characterised by more than average severity. These nasal cases are a distinct source of danger to the community by reason of the insidious character of the affection and in many cases their existence has only been revealed after the lapse of a considerable period of time by their having infected other persons with severe and even fatal diphtheria. The havoc which may result from the presence of a single unrecognised case of nasal diphtheria in a school, institution, or ward in a children's hospital may be easily imagined and need hardly be seen to be appreciated, and in any investigation into the source of an apparently sporadic outbreak of diphtheria the importance of carefully examining the condition of the nasal cavities of those who have been in contact with the sick cannot well be over-estimated.

Although a considerable amount of assistance in the diagnosis of doubtful cases of diphtheria is usually to be derived from a careful consideration of the clinical appearances it is hardly going too far to say that at the present day the nature of a doubtful attack is practically determined by the result of bacteriological examination. Now without intending for a moment to minimise the immense importance of bacteriological examination in the hands of an expert observer, it cannot be denied that the insufficiency of our present knowledge on certain important points connected with the bacteriology of diphtheria, apart from a fallacy which is inseparable from the method itself, materially detracts from the complete reliability of the bacteriological test. I refer more particularly to the difficulty which is frequently experienced in the identification of the bacillus, owing to our uncertainty as to the limits of intranormal variation, both in respect to its form and virulence. The fact has long been recognised that in diphtheritic as in doubtful and even healthy throats bacilli are not infrequently found which more or less closely resemble the diphtheria bacillus but which are innocuous when injected into animals. It has been customary to refer to such organisms collectively as "pseudo-diphtheria" bacilli, without regard to certain important differences which are now recognised as existing between them. The term has proved an unfortunate one as tending to cause confusion and its use should certainly be restricted. Indeed, it would be better that the term "pseudo-diphtheria" were dropped altogether. The organism which has been most frequently referred to under this name is the Hofmann bacillus, of which the special characters are now pretty generally known. It was originally described by Löffler in 1887 as not infrequently present in diphtheritic throats and though for this reason it was frequently associated with the true bacillus which it closely resembled Löffler found it invariably innocuous to animals. In the following year Hofmann further extended the inquiry and showed that the bacillus was even more often present in sore throats which were not diphtheritic, and indeed that it could by no means infrequently be recovered from the throats of perfectly healthy persons. He, like Löffler, found the bacillus devoid of virulence and came to regard it as of a distinct species. This important observation of Hofmann, that the bacillus which bears his name is often present in normal throats, has been amply confirmed by a number of subsequent observers, notably by Roux and Yersin in France, and in this country by Cobbett and Graham-Smith in the course of certain admirably conducted investigations into outbreaks of diphtheria which occurred within recent years in Cambridge and Colchester respectively.

The all-important question as to whether, under favourable conditions, the Hofmann bacillus is capable of developing into a true diphtheria bacillus has been a fruitful source of experiment and discussion amongst bacteriologists for years. With but few exceptions observers have confessed their inability to effect this conversion by artificial means. Richmond and Salter, it is true, claim to have succeeded by passing the organism through several generations of finches; Hewlett and Knight state that they were eventually successful in imparting virulence to what appeared to be a typical Hofmann bacillus by carrying it through a number of generations on different culture media, but in neither case were the experiments altogether convincing. More recently, too, Lesieur claims to have brought about this result in three different ways: (1) by the introduction of the bacillus inclosed in collodion capsules into the peritoneum of rabbits; (2) by long-continued cultivation in peptone broth (in one case eight months being required); and (3) by simultaneous inoculation of the staphylococcus aureus. But the data on which Lesieur's claim is founded are wanting in completeness. If such transition be capable of taking place, however gradually, in the human subject our views on the etiology of diphtheria, having regard to the frequent presence of the Hofman bacillus in the normal throat, will have to be materially extended and our measures of prevention reconsidered. So far, however, whatever be the real possibilities in the laboratory, no evidence has been adduced that this ever does take place in nature and the balance of opinion is opposed to the Hofmann bacillus as a potential source of diphtheria.

Now the Hofmann bacillus, although, as I have stated, it is occasionally present in diphtheritic throats in association with the true bacillus, is readily distinguishable from the Klebs-Löffler organism by certain morphological, cultural, and biological features which are now well recognised. It would therefore seem permissible to speak of it as a "pseudo-bacillus"—if it be necessary to retain the term—and to assume that it is specifically distinct. In respect, however, to certain other bacilli which are frequently present in the throats or nasal passages of those who, without showing any obvious affection themselves, have been in close contact

with the disease the relation is by no means equally clear. I refer to those bacilli which are also commonly classed as "pseudo-diphtheritic," which, though quite indistinguishable from the true bacillus in their morphology, staining, and cultural reactions—especially the power of producing acid in glucose broth—are found to be devoid of any virulence when injected into guinea-pigs. Whether such organisms are attenuated diphtheria bacilli, capable of acquiring virulent properties under favourable conditions, or whether they are specifically distinct, has not yet been satisfactorily determined. The inadvisability, however, of applying the term "pseudo-diphtheritic" to an organism which simply differs from the genuine bacillus in respect to its virulence must, I think, be admitted, in view of our ignorance, not only as to the extent to which the virulence of that bacillus may vary, but also as to the factors which are responsible for it. The settlement of this question as to the relation which the one organism bears to the other must have an important bearing on the precautions which should be undertaken in the presence of an outbreak of the disease and to this subject I propose to return again. From the point of view of diagnosis with which we are at present concerned it appears to me to be most desirable that an organism having the characters above referred to should be classed as diphtheritic, and should the mucous surface from which the organisms have been derived present any, even the slightest, sign of inflammation the case should be diagnosed as diphtheria accordingly. Such, then, are the indications which appear to be derivable from a bacteriological examination in cases where bacilli bearing a distinct resemblance to the diphtheria organism are detected.

Now what value should be attached to a negative result? I have little hesitation in saying, "Very little indeed," unless such result is confirmed by at least one, and preferably two, subsequent examinations, if possible on succeeding days. If the faucial secretion of diphtheria convalescents be carefully examined daily during the third and fourth weeks of their attack in more cases than not the results will prove more or less contradictory. The bacillus may not be recoverable for a day or two, perhaps more, to reappear again on the day following, or it may be found continuously except on some single occasion when it may escape detection. Amongst the occupants of a diphtheria ward such vagaries are no doubt sometimes to be explained by actual reinfection by another patient, but the same thing, though, I believe, less frequently, may be observed in the case of persons who are treated in a room to themselves, in which case no such explanation is tenable. The fact cannot be ignored that a negative result simply means that the observer has failed to find the bacillus, not necessarily that the bacillus is not there. I can call to mind some half-dozen cases in which the clinical and post-mortem evidences were conclusive of diphtheria, yet repeated bacteriological examination by an expert observer—in three of these instances the examination was made by one whose experience in this particular field is probably unsurpassed in this country—entirely failed to reveal the presence of the diphtheria bacillus. Three of these patients subsequently developed paralysis and two died from cardiac failure. These instances are, doubtless, very exceptional, but I simply mention them to emphasise an ever-present fallacy, the recognition of which is not by any means so general as it should be, if one may judge from the frequency with which a single unconfirmed negative result is accepted as sufficient to disprove the presence of diphtheria.

A failure to detect the bacillus, though present on the fauces, may result from an error at any one of three stages of the experiment. Bacilli may escape detection by the observer when making a microscopical examination, owing to their being but few in number in comparison with the other micro-organisms growing in the culture. Or, though present on the swab, they may fail to grow in the culture, owing to defective insemination or by reason of their reproductive capacity being lowered, if not entirely annulled, as a result of previous antiseptic applications to the throat or, finally, they may escape attachment to the swab, in consequence of their being but sparsely distributed on the mucous surface of the fauces. The chances of failure are materially lessened by exercising great care in taking the swab and by repeating the examination on one or more subsequent occasions. It is very desirable that an interval of at least two hours, and preferably more, should be allowed to elapse between the time of using any antiseptic application to the throat and the taking of the swab. This should be firmly pressed against the faucial surface at more points than one, especially where any trace of exudation can be discerned, and the swab at the same time should be rotated between the finger and thumb so as to insure its whole circumference being impregnated with secretion. And the same precaution should be observed when rubbing the swab upon the surface of the culture medium.

The exercise of care in the impregnation of the swab is of particular importance in view of the valuable evidence which may often be derived from an immediate examination of a cover-slip preparation made directly from it when stained by Neisser's method. Having regard to the fact that such examination is within the reach of any practitioner who is equipped with a $\frac{1}{12}$th inch immersion lens and a slight familiarity with bacteriological technique, early information as to the positive nature of a diphtheritic throat may often be derived on the spot without having to wait the 24 hours or so which must usually elapse before the report on the result of cultivation can be received from the laboratory. Should the examination of the swab, however, prove negative the evidence is of little value, even less so than that yielded by a single negative culture, and the laboratory report must be awaited before coming to any decision as to the diagnosis. In any case the examination of the swab, whether negative or positive, should be confirmed by subsequent cultivation. In the course of an investigation into the value of Neisser's stain on 100 consecutive cases admitted into the South-Western Fever Hospital certified as diphtheria, which I carried out some two years ago in conjunction with Dr. R. M. Beaton and Mr. W. C. C. Pakes of Guy's Hospital and which was subsequently recorded in the Transactions of the Pathological Society, the proportion of cases of proved diphtheria (both clinically and bacteriologically) in which the presence of diphtheria bacilli was revealed by a preliminary examination of material taken direct from the swab and stained by Neisser's method was no less than 37 per cent. Incidentally, I take the opportunity of recording my belief in the comparative value of Neisser's stain over all others in the diagnosis of diphtheria, a belief which is shared by many experienced bacteriologists both at home and abroad. Neisser in his original communication regarded the reaction as distinctive in young cultures grown at 35° C. Fraenkel, and more recently Lesieur, have stated their belief that, short of inoculation of animals, it is the most trustworthy test we possess. Dr. W. T. G. Pugh of the North-Eastern Hospital, after an experience of three years, during which period it had been used as a routine confirmatory test, speaks most highly of its value. Bronstein found that in 135 out of 150 cases of proved diphtheria the bacillus stained by Neisser's method was detected by direct examination of the swab and the results obtained by Beaton, Pakes, and myself by this procedure I have already referred to. In our experience Neisser's method has proved, on the whole, more trustworthy than staining by Löffler's methylene blue, though, like all others, not invariably reliable. The appearance presented by the bacillus, moreover, when stained by Neisser's method is a very striking one and on that account not likely to be mistaken by an observer of but little experience in bacteriological examination, a point of no small importance if, as I suggest, an immediate microscopical examination be made from the swab.

The disabilities to which I have referred undoubtedly detract from the authority of the bacteriological test as commonly applied and for this reason it should be regarded as of subsidiary value in cases where the clinical indications are at all distinctive. In cases, however, where the symptoms are anomalous or actually wanting the test is of the highest importance; indeed, it may be said to furnish the only criterion available. I refer especially to that class of sore-throat in which little, if any, exudation can be seen although the tonsils may be more or less enlarged and the adjacent faucial structures obviously inflamed, and to those nasal affections in which nothing beyond a mucous discharge, attended perhaps with slight soreness of the external nares, can be detected. In the differentiation of follicular tonsillitis and faucial diphtheria some assistance can often be derived from the clinical aspect of the case if attention be directed to the following particulars. In follicular tonsillitis, exudation, when present, occurs for the most part in spots, it is usually somewhat cheesy or friable in consistence, often limited in situation to the openings of the follicular crypts, and the spots but rarely coalesce into a definite pellicle. Even if they do the exudation hardly ever spreads beyond the limits of the tonsil. It sometimes appears to encroach on the pharyngeal wall, but never,

as far as I know, extends on to the palate. Actual extension of membrane on to the palate or uvula is almost distinctive of diphtheria. In follicular tonsillitis it is usual for both sides to be about equally involved, whereas a diphtheritic affection is often more marked on one side than the other, and the same is true of the glandular enlargement which is apt to be more pronounced in diphtheria. The degree of pyrexia is likely to be greater in tonsillitis, and, indeed, it may be stated without fear of contradiction that the constitutional disturbance generally is likely to be more severe in follicular tonsillitis than in a case of diphtheria sufficiently mild as to be mistaken for it. Rhinorrhœa is relatively uncommon in follicular tonsillitis and the same may be said of albuminuria which is a frequent symptom in diphtheria. The occurrence of hoarseness, stridor, or a croupy cough is very suggestive, while the advent of paralysis or cardiac disturbance at a later date is, of course, confirmatory of diphtheria. By a careful consideration of all the foregoing points a satisfactory diagnosis can often be arrived at. With respect to those cases in which no abnormality can be detected beyond the presence of a mucous rhinorrhœa it is usually quite impossible to differentiate diphtheritic rhinitis from a simple nasal catarrh. Careful inspection of the anterior nasal fossæ through the external nares may reveal the presence of membrane, either on the septum or floor or the inferior turbinate, but in the majority of cases no exudation whatever is visible, even though the discharge may be teeming with diphtheria bacilli. The white appearance presented by a patch of Schneiderian mucus is a possible source of error, as it is very likely to be mistaken for an exudation unless due care be exercised in the examination. Some degree of redness, and occasionally an impetiginous excoriation of the skin immediately within the nostrils may often be detected. This, when present, is strongly suggestive of diphtheria. It is dependent upon the irritant character of the discharge, a quality also shared by the rhinorrhœa which so often follows scarlet fever in young children.

Having now referred to the chief evidences on which we have to rely in the diagnosis of doubtful cases of diphtheria, it remains to say a few words about the preventive measures which should be undertaken with the object of checking the spread of the disease. On becoming aware of a case of diphtheria among the members of a community living together in the close association which is incidental to school life, I think all must be agreed as to the advisability of immediately adopting the following precautions. 1. Isolate the patient. 2. Disinfect everything which he is likely to have worn, touched, or handled and also the room in which he has been sleeping immediately before the attack. 3. Examine the throats and nasal passages of all persons with whom he has been in especially close contact, such examination, if possible (and in a school it always should be possible) to include a bacteriological examination. 4. Isolate, or at any rate exclude, all "contacts" who are found to harbour even doubtful diphtheria bacilli on their mucous membranes and all (even though a bacteriological examination proves negative) who present any suspicious appearance of the throat or nasal fossæ. 5. Search for any other possible source of infection besides a previous case of diphtheria, not only as serving to explain the present attack but as a possible cause of fresh cases. (In this connexion the possible agency of milk, drinking utensils, cats, wind instruments, &c., should be the subject of careful inquiry.) 6. Do everything which may possibly serve to lessen the infectivity of the patient and thus shorten the period of necessary detention.

Now in school life the close and intimate association of the scholars during the hours alike of work, play, and sleep and the special susceptibility to diphtheria incidental to their age are potent factors in favouring the spread of the disease. On the other hand, the fact of their living under disciplinary control, their supervisors being well educated and presumably intelligent persons, and the special facilities for isolation which are nowadays provided at most of the public and the higher class private schools should prove of material assistance in giving effect to the various measures to which I have referred. Although I hardly think there can be much room for difference of opinion as to the preventive measures which should be adopted at the outset there are several points which have an important bearing on the isolation of "contacts" and the length of detention and treatment of the patient which provide a legitimate field for discussion.

Let us first consider what bearing the presence in the throat and nose of diphtheria bacilli has upon the patient's capacity to infect other persons. Now, if the Klebs-Löffler bacillus be accepted as the causative agent in diphtheria it would seem but logical to regard every person harbouring these organisms in their mucous membranes as a potential source of diphtheria. It does not, however, necessarily follow that the conditions essential to successful infection are actually present. If they were diphtheria would be a good deal more common than it is having regard to the frequency with which the diphtheria bacillus is present in the throat or nose of apparently healthy persons. I am using the term "diphtheria bacillus" in the wider sense which I have already referred to—i.e., as including all bacilli which are indistinguishable from the Klebs-Löffler bacillus in respect to their form, staining, and cultural peculiarities but the virulence of which has not been tested. The frequency with which diphtheria bacilli are to be found in normal throats is undoubtedly influenced not only by the fact of whether or not they have been in contact with the disease but also by the relative closeness which has characterised such contact. For instance, according to statistics which have been carefully compiled by Graham-Smith it is shown that whereas bacilli were detected by Kober, Park and Beebe, and by Denny in 2·7 per cent. of the throats of healthy persons who by careful inquiry were ascertained to have had no recent contact with diphtheria the mean of the examinations made by different observers in connexion with various outbreaks was, for the relatively close "contacts" in the household, 51 per cent.; for the more distant "contacts" in institutions for the sick, 40 per cent.; for poorer schools in which diphtheria was present, 24 per cent.; and for the class of general "contacts," 12 per cent. In a large proportion of the cases included in these records the virulence of the bacilli was not tested but in a good many it was and of these the majority proved to be virulent; yet very few of these persons developed an attack of diphtheria.

The very interesting question naturally follows, How is it that bacilli of proved virulence may often be found living in the human throat and yet their presence turns out to be quite innocuous to their host and only occasionally a source of infection to others with whom he comes into contact? In the latter case it is not unreasonable to assume that the number of bacilli actually present in the throat would in large measure determine the chance of some being transmitted to others, whatever their ultimate fate when they get there. In the former case the question of access can hardly arise, since the bacilli are already in possession and their reproductive capacity in a suitable medium and their virulence have already been proved by experiment. It would seem only fair to infer, therefore, that in these cases the failure of the bacilli to set up diphtheria in the person harbouring them is due to the absence of certain factors which are essential to the development of their full vital activity, while their failure to set up the disease in others would appear to be chiefly ascribable to their enfeebled reproductive capacity, as a direct result of which the likelihood of their spreading the disease would be relatively slight, since the number of bacilli available for transmission would remain proportionately small, however favourable to development the conditions might be in the throat of a chance recipient. In conformity with this view we come to recognise the existence of what might appropriately be termed a state of "active infectivity" in the host as opposed to the "potential infectivity" attaching to a person simply in virtue of his harbouring virulent bacilli in his mucous membranes. In the latter case if one may be permitted a simile from another class of combatants the bacilli might be said to be on "half pay," their fighting qualities though latent being none the less there and available at any time for active service in circumstances calling for their employment.

For the purpose of forming an opinion as to when it is safe to allow an infected "contact" or a diphtheria convalescent again to mix with the community, it is highly important that the conditions which are capable of so modifying the vital activity of the bacillus as to influence the "infective capacity" of the host should be clearly recognised. From a careful consideration of the evidences drawn from an experience extending over a good many years I am convinced that the most important factor is the presence of local inflammation, whether it be of the kind which in our ignorance we call simple or that definitely associated with the presence of pyogenic organisms.

The effect of inflammation in awakening the infective

activity of the diphtheria bacillus is well illustrated by the recrudescence of the local lesion which may often be observed in the diphtheria convalescent as the result of an ordinary catarrh; and in the case of the infected "contact" by his developing definite diphtheria. The same thing may often be seen when scarlet fever occurs during convalescence from diphtheria, the tonsils once more becoming covered with exudation, to be followed in many cases by paralysis. So, too, when measles occurs concurrently with, or very shortly after, diphtheria. In these circumstances the condition before the days of antitoxin usually proved fatal by reason of the rapid and excessive formation of membrane in the air passages. If we admit the power of local inflammation to arouse to a state of active infectivity bacilli previously inactive, it necessarily follows that the increase in their numbers which it implies must materially augment a patient's infective capacity, and hence on theoretical grounds one comes to regard the presence of either faucial or nasal inflammation, however slight, as a sufficient reason for prolonging his detention. Confirmatory evidence of a practical character may be derived from consideration of the circumstances under which "return cases" usually arise, the common experience being that as the result of taking a cold shortly after returning home from the fever hospital a child is noticed to present evidence of nasal or faucial mucous relaxation, with the result that other members of the family are attacked with diphtheria. It is now some 10 or 12 years since the late Sir Richard Thorne as a result of his wide experience in the investigation of outbreaks of the disease noted the fact that the appearance of genuine and widespread diphtheria was often preceded by the occurrence of anomalous cases of sore-throat, characterised by little virulence and of limited distribution. He recorded his belief in the occurrence, in connexion with such outbreaks, of what he termed "a progressive increase of the property of infectiveness," a belief which is in accord with the explanation I have suggested.

Now as there can be no object in maintaining isolation after an individual has ceased to be a possible source of infection to others, it is important to ascertain whether any means exist by which the infective capacity of a person harbouring diphtheria bacilli can be destroyed or at any rate curtailed. This result might be attained either by destroying the virulence of the bacilli or by reducing their number and consequent chance of dissemination. As a possible means to this end one naturally turns to antiseptics. That these agents, as their name implies, are capable of inhibiting, and if used in sufficient strength of altogether destroying, the reproductive capacity of micro-organisms growing under the artificial conditions of the laboratory is a well-proven fact and certainly justifies the inference that they would not be without some influence upon diphtheritic and other infective organisms, even when living under the altered conditions which characterise their existence in the human throat. This supposition is confirmed by actual observation. Not only do we usually notice that a fall of temperature almost immediately follows the adoption of efficient antiseptic irrigation of the throat in faucial diphtheria, quite apart from that produced by an injection of antitoxin, but in the slighter cases a microscopical examination of the swab taken on the day following the commencement of the treatment will commonly reveal a pronounced diminution in the number of bacteria in comparison with that observed on previous occasions. Moreover, the influence of antiseptic irrigation upon the reproductive capacity of the bacilli is frequently evidenced by their failure to grow in culture, should the swab have been taken within two or three hours after the antiseptic has been used, a fact which suggests the desirability of repeating the treatment at frequent intervals.

The power of antiseptic irrigation of the faucial or nasal passages to lower the virulence of the diphtheria bacillus, however, is more doubtful. Roux, amongst others, has shown that its attenuation can be brought about *in vitro* in various ways, amongst which the impregnation of the culture medium with a trace of an antiseptic is one of the most efficient. From these experiments we might argue that such might not improbably be effected in the human subject; but having regard to the fact that a partial reduction of virulence of the bacilli takes place in many cases normally during convalescence its occurrence, I believe, has never been satisfactorily established. Now out of the long and formidable list of antiseptics I prefer for irrigation of the fauces a solution of chlorine. Not the liquor chlori of the Pharmacopœia but an acid solution of chlorate of potash containing free chlorine. The preparation is as old as the hills, but I know of nothing better or indeed so good. The solution I use is prepared by pouring five minims of strong hydrochloric acid on to nine grains of the powdered salt and shaking up with an ounce of water gradually added. This during the acute stage of the attack is used mixed with an equal bulk of hot or iced water every two to four hours according to the severity of the case and whether or not the patient actively resists the treatment. During convalescence it may be used less frequently. For the nasal passages, in consequence of the somewhat irritant effect of the chlorine gas, I usually employ a solution of boric acid. An alternative to either of the above is a 0·5 per cent. solution of formalin, but its use is by no means pleasant. The value of chlorine solution has quite recently received confirmation from the results obtained by Dr. Mervyn H. Gordon in the course of an investigation into the comparative antiseptic effect of various solutions upon micro-organisms present in the mouth. Some of the best known antiseptics were tested by Dr. Gordon and of these chlorine came out at the top of the list, a fact which was to me very satisfactory. Another agent which is capable of exerting no small influence in lessening the infective capacity of the diphtheria convalescent is free oxygenation. It acts beneficially both by its direct restorative effect on the system and by tending to render the tissues less favourable to the maintenance of bacterial existence.

On theoretical grounds we must admit the desirability of keeping apart from the community all persons so long as they harbour diphtheria bacilli, whether such have resulted from an attack of diphtheria or have been acquired simply by contact with the disease. Unfortunately, it is not always practicable to do so on account of the long persistence of the bacillus in some individuals. Although there are practical difficulties in the way of enforcing a rigid isolation for any great length of time in the case of some persons, particularly those who are bread-winners, the same objection could not be urged in respect to school attendance and, whether a day pupil or a boarder, every scholar should be excluded from school until the throat and nose, as a result of three negative examinations, may be assumed to be free from diphtheria bacilli—that is to say, bacilli indistinguishable from the Klebs-Löffler organism in respect to their morphology, staining, and cultural reactions. The usually accepted view as to the relation of the Hofmann bacillus—viz., that it is a distinct organism and incapable of ever being converted into the Klebs-Löffler bacillus—I have already referred to. That the Hofmann bacillus, however, should play no part whatever in the development of diphtheria is perhaps not equally clear. The fact that certain observers have described outbreaks of apparently infective sore-throats in which the Hofmann bacillus alone was present and that in some of the cases fibrinous exudation *plus* Klebs Löffler bacilli were also detected would appear to suggest that in certain circumstances the Hofmann bacillus may act as a predisposing factor in the development of the true disease. Dr. Joseph Priestley has recently described an outbreak of infective throat illness in a school in Lambeth characterised by tonsillar exudation and pyrexia in which the typical Hofmann bacillus and no other was present in 38 out of the 43 attacks. The metropolitan branch of the Society of Medical Officers of Health after careful consideration of the evidence has lately affirmed its belief "that cases clinically resembling diphtheria but in which the Hofmann and not the Klebs-Löffler bacillus is found are infectious and that, consequently, the usual precautionary measures of notification, isolation, and disinfection should be undertaken." Whether the Hofmann bacillus is competent to set up an infective membranous angina or not it would certainly be impracticable, in view of its comparative ubiquity, to make the simple fact of its presence in the throat or nose a test of the necessity for isolation. Roux and Yersin found it present in 44 per cent. of the children attending a school and in 27 per cent. of the patients in a hospital ward in which in neither instance diphtheria had occurred for many months previously. Cobbett detected it in the throats of 23 per cent. of a large number of healthy persons who had not been in contact with any known diphtheria, the proportions in well-to-do and poor persons being 4 per cent. and 25 per cent. respectively, while amongst 2198 non-infected "contacts" examined by Cobbett and Graham-Smith the Hofmann bacillus was found in nearly 40 per cent.

The average length of time during which diphtheria bacilli are said to persist in the throat is variously estimated at from eight to 24 days after the disappearance of the exudation. The average period in a series of cases examined by myself was 20 days, but its duration in patients living in diphtheria wards might be assumed to be more protracted than in those treated in a room by themselves. In a fair number of cases bacilli are found to persist for six weeks, in a few more than eight weeks, and in exceptional instances bacilli may be detected as long as three months after the attack. The longest time on record is, I believe, 363 days. The presence of adenoids appears to be often responsible for undue persistence of the diphtheria bacillus, just as they are a frequent source of chronic nasal discharge. Great care should be taken that the naso-pharynx is free from bacilli before any operative measures are undertaken for their removal.

With the object of curtailing the period of potential infectivity of those harbouring diphtheria bacilli on their mucous membranes and of lessening the chance of their actually infecting others I would strongly recommend the efficient flushing out of the fauces of all infected "contacts" three or four times a day with some reliable antiseptic solution, preferably chlorine, by means of an indiarubber-ball syringe, and in the case of a person actually suffering from the disease the same procedure may with advantage be instituted from the outset as a matter of treatment. No amount of gargling, spraying, or swabbing will be equally effective. In respect to the nasal passages an equally good result, unfortunately, cannot be obtained, since it is practically impossible effectually to reach their various diverticula. These, as might be expected, provide an excellent retreat for the bacillus. During the period of isolation as much time as possible should be spent in the open-air and out-of-door exercise should be encouraged. I should think that the instances where any real difficulty is likely to be encountered in carrying this out must be very uncommon, especially in good class schools where some facilities for segregation are usually existent.

The injection with antitoxin of all "contacts" proved to be harbouring diphtheria bacilli has been recommended but it is quite without effect in hastening the disappearance of the bacilli. In so far as it is competent to avert the danger of an attack and so be a means of restricting the multiplication of organisms capable of spreading the disease the injection of antitoxin is worthy of consideration. I am not prepared, however, to recommend its indiscriminate adoption as a prophylactic measure in the case of apparently healthy "contacts" living under skilled observation simply because diphtheria bacilli are present in their mucous membranes. In the case, however, of schools for very young children, particularly of the poorer class, there is a good deal to be said for the practice. Antitoxin should always be given, without exception, in the case of an infected "contact" who presents any indication, however slight, of either faucial, nasal, or laryngeal inflammation.

HOW TO TREAT A CASE OF INSANITY.[1]

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INSANITY is more easily described than defined and it is significant that the most modern authorities do not attempt to give a definition. In a previous lecture here[2] it was pointed out that the age, circumstances, and surroundings of the individual and the period in which he lived were all necessary factors in the determination of insanity. The practical point to be considered, however, is one of conduct, and the conduct of an ordinary member of society which tends to the detriment of himself or his neighbours may be such that his sequestration becomes justifiable or even necessary and obligatory. Society, acting for its own protection, establishes certain rules and regulations of a self-restraining character which the various members, having a common object in view, abide by and are bound to acknowledge for the common welfare. Failure to comply with these imposed rules which the reflective wisdom of the community has laid down entails punishment, but this may be mitigated, if not altogether avoided, when by incapacity through disease or in some other way the offending member fails to apprehend the nature or the quality of the act he has committed in infringement of the law. This mitigation implying as it does an exculpatory plea, connotes mental unsoundness, a weak or an ill-balanced mind, and involves either a generous interpretation of the law or the vexed question of irresponsibility, a subject which for nearly two centuries has been a debatable theme between medical and legal minds. The reason for the appearance of the legal authority on a medical point was due to the fact that medical men, in order to bring an insane person and his property under control, had to invoke the aid of jurisdiction. The question of responsibility was discussed by Hale several centuries ago. He insisted that the test of criminal responsibility should be the level of understanding of a child of 14. It was pointed out that this meant the identification of "healthy immaturity" with "diseased maturity" and later, in 1723, Tracey insisted that to establish the plea of irresponsibility the person should be totally deprived of understanding and memory and be as an infant, a brute, or a wild beast. Kenyon suggested, in 1800, that the question of insanity should be limited to the time the act was committed and such was the custom until, in 1812, Mansfield urged that the criterion of responsibility should be a knowledge of good and evil. In 1843 Tindal recognised partial insanity by insisting that the question of right and wrong should only be considered in regard to a particular act, but it was pointed out that the affection and the will may be diseased without the reasoning powers—thus recognising moral insanity; but Stephen pointed out that a man could not know the nature and the quality of an act who was deprived by disease of the power of passing a rational judgment on the moral character of such an act. Section 116 of the present Lunacy Act recognises disease or age as causing insanity and incapacity to manage one's own affairs. I have very cursorily referred to this question of responsibility which may on a future occasion be very much further elaborated. The first legal enactment dealing with the insane is an unrepealed statute, *De Prerogativa Regis*, 17 Edw. II., by which, as a survival of feudalism, when everything belonged to the king or the lord, the care and custody of the insane belonged to the Crown. By this early statute the king took the rents and profits of an idiot's lands for his own use during the life of the idiot, subject only to an obligation to provide the owner with necessaries. In the case of a lunatic the king was a trustee for his benefits and those of his family. Juries, therefore, where they could, avoided a verdict of idiot in the two forms of inquiry then in vogue—viz.: *de iodota inquirenda*, and they founded their conclusion upon the alternative *de lunatico inquirendo*, a form which survives at the present day. Hence it became very desirable that some definite distinction should be drawn between these two states and, with the yearning for definitions characteristic of the legal mind, great lawyers contrasted *non compos mentis* with *fatuus naturalis* by forming a definite limitation to the capacity of an idiot. Under one set of expositors the mental capacity of an alleged idiot limited him to telling his age, stating who his father and mother may be, and to counting 20. Another set of authorities determined his idiocy by his ability to name the days of the week and measuring a yard of cloth. The Idiots Act of 1886 put an end to this definite limitation by recognising the fact that an idiot was educable and removing him from Coke's definition that an idiot was "one who from his nativity by a *perpetual infirmity* was *non compos mentis*." The tendency of modern law has developed in the direction of deciding the capacity of a person alleged to be insane by considering this capacity with reference to the kind of conduct which brought his mental condition into question, and to limit the inquiry to the time at which the abnormal phase of conduct occurred. By the present Lunacy Act, passed in 1890, evidence in proof of mental unsoundness at an inquisition is limited retrospectively to two years before the date of the inquiry, and the Act also makes it necessary to consider the state of mind of the alleged lunatic at the time the inquisition is held.

Terminology, distinctions and import.—Before we enter upon the question of dealing with cases of insanity it is essential to be clear in regard to three terms that are frequently used in speaking of insane patients and which

[1] A lecture delivered at the Medical Graduates' College and Polyclinic, Nov. 17th, 1903.

[2] Jan. 16th, 1903, Mental Unsoundness amounting to Certifiable Insanity and its Diagnosis, a lecture delivered at the Medical Graduates' College and Polyclinic, THE LANCET, June 6th, 1903.

should be definitely understood—viz.: *illusion*, *hallucination*, and *delusion*. By an *illusion* is meant a real impression produced upon the sensorium through one or other of the senses, but appearing in consciousness very different from the actual fact; an illusion is *objective* in relation to the sensorium and the element of logical inference is slight. *Hallucinations* arise when no impression has been produced upon any of the senses and is a new creation due to an abnormal condition of the sensorium itself; it is *subjective* in relation to the sensorium. It is a false perception arising from within and is largely independent of an external stimulus. Thus, if the tolling of a bell be heard and be interpreted as the sound of human voices it is an illusion; but when no sound is audible and human voices are declared to be heard then it is a hallucination. *Delusion* pertains to the *mind* only and not to the *senses*. It is due to a perverted or morbid mental action, which prevents the subject from realising the falsity of his belief, either by the evidence of his senses or otherwise. A man calling himself the Creator or the Saviour, or stating that he is 10,000 years old labours under a delusion. The types and varieties of delusions are almost endless; sometimes they constitute the sole disorder, which is then termed "delusional insanity." When limited to one topic they form the monomanias—the popular conception of insanity. Many of these delusions become systematised and enlarged, as is seen in the inmates of asylums for the insane.

The terms above referred to are of pathological importance in their natural order, for *hallucination* probably indicates a deeper reduction than an *illusion*, which may only be dependent upon some peripheral abnormality of the special senses. *Delusion*, again, indicates that a definite combination of false impressions has become the basis of a belief which cannot be reasoned with, and may indicate some chronicity, for it is of a somewhat persistent nature and involves more or less elaborate reasoning processes. These perversions of the senses and intellect form the substratum of thought in the insane and they serve as motives to action precisely as they do in the sane. It is necessary, therefore, to seek for them and to ascertain how far these morbid thoughts influence the conduct which is under consideration. Much assistance may be obtained by bearing in mind the comparison between the present mental condition and that which characterised the patient formerly. Lord Eldon laid down a doctrine which has been accepted by his successors, that "mere weakness of character, mere liability to impulse or susceptibility of influence good or bad, mere imprudence, extravagance, recklessness, eccentricity, or immorality—no, not all these put together would suffice to establish a verdict of insanity; except upon a review of the whole evidence they could be referred to a morbid condition of the intellect." What to most minds would be more conclusive of a "morbid condition of the intellect" than an unlicensed indulgence in the irregularities described above? It is essentially in the contrast between the present and the past that insanity is diagnosed, and the fact that such moral departures, as above referred to, come on in persons in whom an opposite, or at any rate a different, character formerly prevailed, is strong circumstantial evidence of insanity. In clearly marked cases of hallucinations or delusions there is, as a rule, no difficulty of diagnosis, but cases of rambling incoherence and delusions are not infrequently met with which require some elucidation and reference.

Diagnosis.—It is not expected that a medical man whose experience is not constantly with the insane shall diagnose the many and subtle varieties of insanity with the readiness of one versed in the treatment of every form of mental disease; but it is expected of him that he should not deprive of his liberty and incarcerate as insane a person who is suffering from the effects of fever or other temporary inflammatory states, as has been done on more than one occasion within my experience. For instance, the delirium of fevers such as typhus and typhoid has been mistaken for acute mania. I have seen the delirium of typhoid fever, as also that of pneumonia, mistaken for such and a certificate issued accordingly. Delirium is always a sign of nervous disturbance and it may be caused by a general affection of the whole economy operating upon the nervous system, as in the above-named fevers, in scarlet fever, small-pox, severe inflammation of the lungs or meninges from severe injuries, through the effects of alcohol or chloroform, and in uræmic poisoning. In high fever and in long protracted febrile states delirium is exceedingly common before a fatal termination, but in nearly all cases it is preceded for some days by symptoms characteristic of the disease on which it is dependent. The character of the delirium is in most cases incoherence or a quiet rambling and it occurs generally at night when the patient is drowsy and no one is addressing him. Frequently associated with it are hallucinations of vision. The temperature is often a reliable guide. In delirium it is high and there is a quick pulse, furred dry tongue, parched skin, injected conjunctivæ, and high-coloured urine. These conditions are the exception in the most common forms of acute mania, and it may be laid down as a good rule that in cases where the temperature is distinctly above the normal the examination should not be regarded as complete until it is ascertained whether inflammatory action in one of the principal organs or one of the continued fevers be not the cause of the mental disturbance.

Acute meningitis has been mistaken for mania; the mental phenomena greatly resemble one another; but the headache, vomiting, intolerance of light and sound, with suffused eyes, contracted pupils, and the high temperature should warn us. Delirium tremens has been mistaken for insanity but the finer distinctions between insanity requiring a certificate and transient delirium tremens are rarely drawn. The sudden and impulsive motor disturbances of alcoholic intoxication not infrequently require restraint, and it is not improbable that residence in a well-conducted asylum may prove very salutary to the slaves of alcohol; still, in my opinion, it is improper that such cases should be classed with the insane, for the stigma clings to them and militates much against their future prospect in regard to sobriety when they leave the asylum, as also against their material prosperity when discharged. Speaking generally, the diagnosis of delirium from the varieties of mania rests much more on the co-existence of gross physical disease accompanying the former than on any marked differences in the mental symptoms.

It is within my experience that insane persons may only display insanity at intervals and in the society of certain persons. I have known insane persons to have sufficient cunning to exercise self-control in the presence of strangers, hiding their delusions for a long time, although these were, in one recent case, of the nature of aggravating aural hallucinations, and in another of marked morbid abdominal sensations. The different varieties of insanity need hardly be considered here in regard to diagnosis, but it may be mentioned that general paralysis is almost invariably attended with the Argyll-Robertson phenomenon, and it needs asylum or hospital care; whereas insanity accompanying confinement should, in my opinion, be treated, for six weeks if possible, outside an asylum or hospital before a certificate is deemed necessary.

Examination of the insane.—This must necessarily vary with each case and according to the social status, habits, mental peculiarities, and other features of the patient. When called upon it is, in my opinion—although some differ from this—far better for a physician to be introduced in his actual capacity as a medical adviser rather than be announced as "Mr.," concealing his real character and making it appear that a visit is being paid casually. A patient is more likely to commit a dangerous act through this deception than by being actually informed that a physician was visiting. When in the presence of the patient it is best to endeavour to gain his confidence by a few well-chosen general observations and a great guide will be found in the physiognomy or the general expression of the countenance, peculiarities of dress, arrangement of the room, &c. Following these preliminaries the investigation should extend to medical points, covering the special senses, such as noises in the ear, voices or whispers, and what they say. A direct question: "Do you answer them back?" may elicit marked delusions otherwise concealed or suppressed, although based upon definite aural hallucinations. Disturbances of common sensation, such as animals creeping over the skin, electricity and galvanism, or "marconigrams" transmitted may be elicited, or possibly delusions may be evoked from answers to questions relating to the home and family, to business prospects, or religious views. Great public movements, important questions, or sensational news almost always interest and affect the mentally unstable, and there are at the present time persons recently admitted into Claybury either as Miss Hickman herself, or those specially commissioned to search for her, or who have elaborate theories as to her disappearance and death. During the interviews with a mental case sufficient will be

noted in regard to the memory or the faculty of ideation to justify conclusions, but if the patient be reticent or indignant with the "idea of being ill" a tactful sympathy with him may bring out marked delusions of persecution or suspicion which the friends themselves and those most intimate with him had failed to observe fully. A patient disinclined to converse may express his views more freely in writing, and it is well in cases of marked reserve to direct the inquiry to suicide, as suicidal attempts are not infrequently contemplated or made in patients disposed to mental depression. If this be so care should be taken that the patient is never left by himself. Finally, the family history, although difficult to obtain and a delicate inquiry, is often found to be invaluable for clearing the diagnosis. Any history of nervous diseases in the family—the different neuroses being strongly hereditary and often mutually interchangeable—may be of great assistance towards forming a conclusion.

Course to adopt and in what form.—Having said so much the urgent question is: "What is to be done?" Without enumerating the different forms of insanity and their detailed treatment it may be stated generally that some varieties are suitable for home treatment. These are especially forms of insanity referred to malnutrition, such as those caused by excessive lactation or the conditions accompanying the puerperal state; transient toxæmic states, such as those due to drink or drugs, and the temporary insanities of young persons; quiet and harmless weak-minded cases; and certain cases of general paralysis in the last stage, whose friends are desirous of avoiding the much-felt stigma when a father or husband is said to have died in an asylum. With these exceptions it may be very definitely asserted that the treatment of the patient is much better away from home, and such cases as early general paralysis, insanity associated with epilepsy, any acute insanity not the foregoing recommended for home treatment and acute exacerbation in an otherwise quiet and chronic case, melancholia with refusal of food—for such are potential suicides,—cases of chronic delusional insanity or monomania with systematised fixed delusions—for such are potential homicides—these are all better treated in institutions. They require very special supervision and the sooner they are removed from home the better for themselves and their friends.

Classes of patients and methods of dealing with them.—As is well known, cases of insanity are divided, according to law, into three classes. For each of these classes there is also a different law, so that in lunacy there is indisputably "one law for the rich and another for the poor." The three legal classifications are: (1) private patients, (2) pauper, and (3) criminal. Taking these classes in their inverse order, firstly, criminal lunatics need not be considered, as before being certified they are objects of special solicitude elsewhere. There are two classes of them, called respectively (*a*) the "Home Secretary's lunatics"—i.e., criminals who become insane before or after trial and who may be sent to an asylum by the Home Secretary's order; and (*b*) the "Sovereign's lunatics"—those who are insane on arraignment or "found guilty but insane." These latter are consigned to Broadmoor during the King's pleasure. Pauper lunatics are those who cannot pay, or whose friends have not the means to pay, for their maintenance, amounting at the lowest estimate to about £1 per week. To be admitted into a county asylum as a pauper lunatic the procedure is simple. The police constable or relieving officer of the district is informed, the parish medical officer fills up the certificate, and a justice orders the patient to be detained. I am not infrequently asked how a lunatic who may be annoying a certain person can be dealt with, as under the Act it is no one's duty to give the information. The friends may refuse the petition that the person should be removed and the landlord may also refuse, as whoever signs the petition enters into a contract to visit every six months. In such a case a private patient can be dealt with as if a pauper, and paragraph A covers such cases. If a person is suspected of being a lunatic a private letter addressed to the Commissioners in Lunacy may be sufficient to commence an action. The Commissioners have caused inquiries to be made under a section of the Act dealing with an alleged lunatic not under proper care and control.

Reception of pauper lunatics.—An order made for the reception of a lunatic if made by a justice otherwise than upon petition is called a "summary reception order." Such orders may be made as follows: A, lunatics not under proper care and control or cruelly treated or neglected; B, resident pauper lunatics; C, lunatics wandering at large; and D, lunatics in workhouses who ought to be sent to an asylum.

A. Every constable, relieving officer, or overseer who has knowledge that any person within his district who is not a pauper and not wandering at large is deemed to be a lunatic and is not under proper care and control or is cruelly treated or neglected must within three days swear such information before a justice being a judicial authority under the Act. Upon such information on oath of any person whomsoever the judicial authority may visit the alleged lunatic and must, whether making such visit or not, direct two medical practitioners separately to examine him and to certify as to his mental state. The judicial authority upon being satisfied that the said information is correct and that the person is a lunatic, and a proper person to be detained under care and treatment, may direct the lunatic to be received and detained in an asylum named in the order, and to which, if a pauper, he might be sent under the Act. (After admission into the institution he is classified as a pauper until it is ascertained that he is entitled to be classified as a private patient.)

B. Every medical officer of a union who has knowledge that any pauper resident within his district is deemed to be a lunatic and a proper person to be sent to an asylum must inform the relieving officer of the district within three days. Every relieving officer who obtains such knowledge from any source must give notice thereof within three days to a justice having jurisdiction in the place where the alleged lunatic resides. The justice must examine the alleged lunatic and call in a medical practitioner to certify as to his mental state, and if satisfied that the person is a lunatic and a proper person to be detained under treatment, may by order direct his detention in the institution named therein.

C. Every constable, relieving officer, or overseer who has knowledge that any person (whether a pauper or not) wandering at large within his district is deemed to be a lunatic must immediately apprehend or cause him to be apprehended and taken before a justice, unless the justice examines the alleged lunatic where he is (within his jurisdiction). The justice must examine him and call in a medical practitioner to certify as to his mental state, and may, if satisfied that he is a wandering lunatic and a proper person to be detained under care and treatment, by order direct his detention in an institution to which pauper lunatics from that place may be sent under the Act. (The lunatic is then detained as a pauper until it is ascertained that he is entitled to be classified as a private patient.)

D. Every relieving officer upon receiving notice from the workhouse medical officer that a pauper in the workhouse is a lunatic and a proper person to be sent to an asylum must within three days give notice to a justice having jurisdiction where the workhouse is situate (although it may be situate in a county not including the union to which the workhouse belongs). The justice must examine the patient and call in a medical practitioner to certify as to his mental state, and if satisfied that the person is a lunatic and a proper person to be sent to an asylum may by order direct his detention in the institution named therein.

(Section XXIII.) A reception order may also be made by two Commissioners in Lunacy in the case of a lunatic not in an institution or workhouse.

Note.—In each case the reception order must be accompanied by a medical certificate (in Class A two certificates are required) and dated within seven clear days after the date of the medical examination. The justice or judicial authority making the order need not necessarily be the justice or judicial authority to whom notice was given by the relieving officer, but must have the same jurisdiction.

Removal to workhouses in urgent cases.—If it is necessary for the public safety or the welfare of the alleged lunatic that before the above proceedings can be taken he should be placed under care and control, the relieving officer or constable may remove him to the workhouse of the union in which the alleged lunatic is, and, unless there is no proper accommodation, he must be received and detained therein while the proceedings are being taken, but not for more than three days unless the medical officer of the workhouse signs a certificate under Section XXIV. (1) or a justice's order is obtained for his detention therein. Three years' consecutive residence in a locality constitutes what is termed "a settlement" and entitles a pauper patient to admission into the asylum provided for that particular district. Pauper patients are cared for by the counties or joint counties, city or borough authorities in England in

their several institutions, but workhouses also form one of the institutions for the care of the insane poor, and Leavesden, Darenth, Caterham, and Tooting Bec asylums are examples of those for London.

Reception of private patients.—The mode of reception for private patients, to which we shall presently refer, is the same for all, whether received into county asylums or into institutions especially provided for them. There is another class of patient, not included in the three distinct classes previously mentioned—namely, the *bonâ fide* patient who is not certifiably insane. He may be conscious of a coming recurrent attack or he may feel a dread or awe of an impending mental breakdown for the first time. He may be safe with the minimum of supervision but not safe alone. Such a person may enter a registered hospital or a licensed house as a voluntary boarder. He merely expresses his wish in writing and this must be sanctioned by the consent of the Commissioners in Lunacy for a registered hospital or a justice must grant permission into a licensed house, but the boarder, once admitted, is free to leave the institution by giving 24 hours' notice in writing; or, on the other hand, he may be certified by direction of the Commissioners in Lunacy although he has given notice to depart. In such a case the patient not infrequently thinks that he has been tricked and it is certainly not a satisfactory procedure. At present no legal facilities exist for private patients to become voluntary boarders either in county or other public asylums where private patients are received.

Accommodation provided for the different classes.—There are suitable "institutions" for each of the classes enumerated and they may be summarised as follows: (1) institutions, a term used in law to signify (*a*) asylums, (*b*) registered hospitals, and (*c*) licensed houses; (2) workhouses; (3) houses in which patients are "boarded out"; and (4) private houses (unlicensed) for not more than one patient, called by law "single patients." These are the four classes of reception houses recognised by law for insane private patients. (*a*) Asylums, as already stated, are county, joint-counties, city, borough, or district asylums. (*b*) As to registered or lunatic hospitals, they are institutions such as Bethlem and St. Luke's Hospital in London, St. Andrew's Hospital in Northampton, and the Cheadle Royal Asylum near Manchester. There are 14 of these institutions in England and Wales. They are registered by the Commissioners in Lunacy. They were originally endowed by private philanthropy, and they receive paying as well as free patients, the latter usually belonging to the middle classes, the balance of profit derived from accommodating paying patients being applied to the support of those unable to pay. These hospitals are managed by committees and do most excellent and much appreciated charitable work. (*c*) The Lunacy Act of 1890 enacted that no more houses or private asylums should be licensed—thus creating a monopoly in these establishments—but it granted permissive power for local authorities to build such accommodation for private patients as they might deem necessary. Several counties and some cities and boroughs availed themselves of this and have provided inexpensive accommodation at low rates of payment for private patients, the charge made varying from £1 to £2 per week. Accommodation is provided in one of the London asylums for female private patients at a charge of 16*s.* per week and for male patients at from 30*s.* to £2 2*s.* per week.

Licensed houses or private asylums are generally managed by a resident medical proprietor.

What is called "single care" or an unlicensed private house is when a patient is certified (two certificates, the petition, and the magistrate's order) to the single care of any one person; but no one, without the special consent of the Commissioners in Lunacy, can take more than one certified patient. Special stringent reports and conditions are prescribed by the law in the case of persons under "single care" and if the house selected be that of a registered medical practitioner he is not allowed by law to be the visiting medical attendant. Provided that no one makes a profit by keeping the patient the friends or relatives may take a house and place it under the charge of nurses or attendants, with a medical man to visit.

These are at present the legal institutions for the treatment of private lunatics, but some consulting physicians admit that, for reasons of pure humanity, they may evade the law and send a mental patient uncertified—who, by the way, may be certifiably insane—into the care of nurses or a medical man who receives payment. As it is illegal to receive profit from keeping a lunatic uncertified—i.e., a patient certifiably insane but not certified—this practice has led to prosecutions. Hope is expressed that fresh lunacy legislation may be passed to permit of a mental patient in the stage of incipient insanity being cared for, at adequate payment, under proper restrictions, and presumably under the care of those who have given proof of special experience and personal fitness, and who can in addition show a distinct recommendation for the character of the household and the home.

Patients suffering from incipient insanity are not infrequently recommended by the neurologist to travel. They go forth and in many cases they never return. Upon this point it is not too much to say that valuable lives which might be restored are lost through the failure of the person consulted to apprehend the nature of mental depression and the gravity of the consequence of sending such a person travelling away from home. There is no justification for ordering a person with any symptoms of actual insanity to leave home on a sea voyage or a journey.

Perhaps it may be mentioned here that no mechanical restraint may be used—except for medical or surgical reasons, or to avoid danger to himself or others—in the case of certified patients, and when used notice of the same must be sent to the Commissioners in Lunacy. About this matter of mechanical restraint the official authorities are most particular. Restraint is rarely used in any "institution." Since the opening of Claybury—a period of ten and a half years, during which time nearly 10,000 patients have been treated—restraint has never once been used to control a violent patient.

Treatment.—As to the treatment, the description of the symptoms and course of Hamlet's illness suggest the remedies—

> "And he, repulsèd,
> Fell into a sadness; then into a fast;
> Thence to a watch; thence into a weakness;
> Thence to a lightness; and, by this declension,
> Into the madness whereon now he raves,
> And all we wail for."

Whether the patient be treated in his or her own home, or in any of the "institutions" provided under the Lunacy Act, adequate nursing is essential and must be provided. In a private house where a patient is more difficult to control than in an asylum, two or more nurses will be required by day and a night nurse will also be necessary. Insane persons, when treated in their own homes, often develop a mistrust in members of their own family and this may lead to a tragic end. For some cases one nurse will be sufficient, more especially if the nature of the case will permit of the nurse sleeping in the patient's room at night. A mental nurse is absolutely necessary for a mental case, and preferably a young person with asylum experience whose record of training is supported by certificates in mental nursing, for only those accustomed to and familiar with the insane are of any service in this illness. It is by the help of efficient nursing that an attack of insanity may be cut short, the risk of accident or suicide averted, the anxiety of relatives and friends relieved, and valuable lives restored to reason. Tact, watchfulness, untiring patience, sympathy, geniality, and good temper are essential qualifications for nursing the insane, and a good attendant is of incalculable value in the home treatment of any case of insanity. Similar previous experience is, therefore, an essential qualification. Ordinary hospital nurses are totally unfit for nursing the insane and they should not be employed. There are numerous nursing homes and institutions where self-reliant, prudent, and thoughtful nurses—total abstainers most of them—can be obtained at what may be almost called a moment's notice. If mental nurses be not total abstainers it is a rule with them in private nursing not to take any alcoholic stimulants while on duty.

At the present time before a well-to-do person is placed in an asylum home treatment is given a fair trial, so that in the early stages of mental disease every effort in such a case should be made to promote recovery through the aid of private nursing. The risks are usually greater in a private house, from stairs, open windows, knives, razors, &c. Windows must be blocked, possible weapons removed, locks taken off, superfluous furniture discarded, pegs, &c., removed, and all medicines, drugs, and poisons placed securely under lock and key. When patients are treated in their own homes the vigilance of friends not infrequently aggravates, if it does not suggest and develop, suicidal impulses. When a patient undergoing home treatment shows any suicidal tendency that patient should never be left alone or out of sight.

for one instant. He should be followed even to the lavatory, he should have his food specially cut up for him, no strings should be permitted to the clothing, and someone should sit up and be on guard all night. Daily written notes of the temperature, food taken, sleep obtained, exercise in the open air, and any change in the mental symptoms or the body weight should be recorded to, and required by, the medical attendant. As to sleep, this is often the greatest trouble; sleepless nights possibly mean noise, excitement, and violence by day. These latter are the symptoms which as a rule determine asylum treatment.

The remedies which favour sleep are either *direct*, which act primarily upon the central grey matter or its blood-supply, or *indirect* which are not in themselves narcotics but favour sleep by removing disturbing elements. Among the latter are iron which by relieving anæmia also relieves the restlessness and sleeplessness often accompanying it. Iron has exercised marked benefit in cases of epileptic insomnia. Digitalis, by adding tone to the cerebral arterioles, effectually prevents passive congestion in lax arteries when the patient occupies the recumbent position; it also probably causes a due amount of cerebral anæmia. Tartar emetic lessens arterial pressure and acts as a vascular sedative; it is very useful in the restlessness of sthenic inflammations and when combined with opium it is very effective in lessening sthenic delirium. Alcohol, administered with easily digestible nourishment during periods of exhaustion, especially just before retiring to rest, is a most valuable sedative.

Of the direct sedatives bromide of potassium is certainly the simplest if it be not the most efficacious. It is very useful in the insomnia of overwork and the restlessness arising from reflex affections; it can be given alone in 20-grain doses three times a day or in combination with chloral (15 grains) which is the best remedy for simple insomnia, and there are no unpleasant after-effects from the combination. If chloral hydrate is prescribed for old people care should be taken to have a hot-water bottle in the bed and the feet kept warm. Opium has the disadvantage of (1) losing effect from the toleration which follows repeated doses and of (2) setting up digestive troubles, but it is very useful as an anodyne, either in 10 minim doses of the tincture, or in subcutaneous injections of morphine, one-sixth to one-half of a grain. Opium is very suitable in cases of sleeplessness in restless old people and seems to act on them as a sedative stimulant. Sulphonal in 20-grain doses three times a day, taken in warm milk or beef-tea, acts as a marked muscular depressant, but it is apt to cause intestinal trouble and its action is cumulative. It is best given for continuous excitement, for a few days at a time, and then withdrawn. To control sudden violent aggressive motor excitement it is of no use. Some chronic noisy cases do very well with a dose of sulphonal at night. Trional in similar doses is less depressant but is also an intestinal irritant owing to its insolubility. There is no better remedy than a hypodermic injection of hydrobromate of hyoscine, from $\frac{1}{100}$th to $\frac{1}{50}$th of a grain. The effect is very fleeting but it is immediate; the patient is as excited as ever the next day or even in a few hours, but care should always be taken to visit the patient frequently after the injection, and it may be advisable to combine with the hyoscine a subcutaneous dose of strychnine. Hyoscine is used less to procure sleep than reflexly to cause muscular paralysis. Paraldehyde in one-drachm doses is a valuable sedative for old people, or those in whom the circulation is feeble; it does not weaken the heart; the pulse gains in strength under its action; it is not an irritant, but, on the contrary, is usually borne well by the stomach; it is superior to chloral for the insomnia of alcoholic delirium; and as a hypnotic in cerebral affections it is most useful. Noisy paretic dementia, the multiform manifestations of hysteria, and the convulsive neuroses are all greatly improved by it and it can be taken alone in water or with milk or beef tea. Cannabis indica, in combination with bromide of potassium, has been recommended by some for epileptic excitement, nervous insomnia, or acute mania, but my experience fails to recommend it. In some women it produces very unpleasant hallucinations, and the benefit, reported in the experience of others, may perhaps be due to the simple bromide, often used in combination with it in the formula "bromidia." Bromide of potassium in large doses of from four drachms to one ounce has been recommended for maniacal excitement. Perhaps the best cure for sleeplessness as well as motor excitement is open-air exercise. Sleep can often be obtained by special attention to diet and artificial feeding may become most important. When a patient refuses food, gentle and firm persuasion may overcome the refusal; beyond this the nurse should never go. No apparatus for forcible feeding should be employed by any other than a medical man—who chooses his own method, either by the mouth or with the use of the nasal tube. Feeding is the sheet-anchor of treatment in many cases of early toxæmic insanity, such as the puerperal form, and artificial feeding should be resorted to early and often, during every quiet interval and at each opportunity, to compensate for the profound exhaustion—often intense—caused by restlessness and maniacal delirium.

One of the most important points in treatment is attention to the state of the bowels, for constipation is a most prevalent irregularity in the insane. Calomel in doses of ten grains is easily borne and is probably the best purgative. Croton oil, even in as large a dose as two minims, is often ineffective. It is difficult to get the insane to take tabloids or pills and almost impossible to give these with food—even if it were desirable. Epsom salts, or some of the foreign well waters such as "Hunyadi Janos," are very effective when given daily and in free doses—generally twice or three times the dose required for a sane person.

Restraint, to which reference has been made, should never be permitted in a private house; when it appears necessary the time for home treatment is over and asylum care is urgently indicated. Asylum treatment often renders unnecessary the excessive and damaging used of narcotics, calmatives, and restraints, which are so often used to prevent the noise and destructiveness of patients treated in their own homes. The treatment in asylums consists in diverting the morbid mind into healthy channels, the removal of disturbing causes, and the encouragement and example to industry afforded by those in attendance. Perseverance, attention, uniform kindness, yet firm determination, are characteristics always appreciated in the asylum nurse. It is not too much to say that the regular routine of asylum life tends to favour regular processes of thought and reflective action which are often the first symptoms of recovery in patients who have suffered from delusions. In the asylum there is constant, but not too direct, watchfulness and supervision combined with forbearance and respect. These characteristics form what is usually termed the elements of psychic or moral treatment and they are invaluable in asylum as well as in home treatment. They constitute nothing that is new and they are the basis of the practice of general as well as asylum physicians.

Procedure.—In dealing with this aspect it has evidently been decided that the time has arrived when the person has to leave home and the case of the private patient alone needs consideration, for the procedure for the pauper lunatic is simple and the criminal lunatic is already in legal hands. The method for placing a private patient under legal care is one of two alternatives: either the *de lunatico inquirendo*, which is an inquisition held by one of the two Masters in Lunacy, before a jury, of whom 34 may be summoned by the sheriff, but not more than 24 are empanelled, and at least 12 of these must concur. Counsel for the petition must conduct the proceedings in a "judicial spirit," and no evidence of alleged insanity over two years previously must be tendered, the point being to keep to one or more of three special issues—viz., that at the time the person (1) is of unsound mind, (2) is incapable of managing himself, or (3) is incapable of managing his own affairs. The alleged lunatic may be personally examined and may be put upon oath either in open court or privately. The proceedings of an inquisition are public. When a person has been found insane by inquisition he may traverse these findings—i.e., he may get the verdict set aside by proceedings determined in the Court of King's Bench or at the assizes, otherwise he remains a lunatic either until recovery, when the finding of the inquisition is put an end to by a *supersedras* or is annulled by his death. When a lunatic is "so found by inquisition" a committee of the person and a committee of the estate are appointed, the one interested in his life and the other in the good management of, and possible succession to, his estate. The Masters in Lunacy hold all inquisitions and they make summary inquiries. They may also make consequential inquiries dealing with the person and property of any lunatic, should his property be of the value of £100 a year. If his property be of less value than £200, and if no relatives or friends will investigate, the inquiries are made by the county court judges, as also if the case be one of

partnership and the assets are less than £500. Finally, inquiries may be made by the guardians of any union.

Section 116 of the Lunacy Act, 1890—the great practising section for lawyers—enables the Master in Lunacy, on a summons being taken out in his chambers and heard before him, to apply powers of management and administration of the estate in the case of (1) lunatics, not so found by inquisition; (2) every person lawfully detained within the jurisdiction of the English courts as a lunatic and not so found by inquisition; (3) in the case of insanity through mental infirmity arising from disease or old age; (4) in the case of persons insane, with an estate of not more than £2000, or yielding £100 a year; and (5) in criminal lunatics, continuing insane, and remaining under confinement. The other method of placing a private patient, or a patient not a pauper and not so found by inquisition, is through a "reception order" signed by a justice, upon petition of a near relative, and accompanied by two medical certificates. The order may, as already stated, be made summarily, without a petition; it may also be made by the Commissioners in Lunacy themselves, or in the case of a lunatic so found by inquisition the order may be made by the committee of person.

As to (1) the petition, (2) the order, and (3) the medical certificate. The petition must be signed by a relative of the patient if possible; if not, the reason why it is not so signed must be stated. The petitioner must not be related to, nor connected with, either of the medical certifiers and the petitioner must have seen the patient within 14 days of the presentation of the petition. The medical certificates imply an exceptional power granted by the State to members of our profession, in using which we deprive the subject of his personal liberty, his civil capacity, his social, financial, political, and even his domestic rights. Such a power is not given to any other functionary in the land; hence insanity becomes a very serious issue, and all the legal machinery from the justice of the peace to the Lord Chancellor himself may be set in motion. In stating that a person is mad it must be proved and it must be committed to writing. All the reasons must be given, a slip of the pen, an inaccuracy as to date, as to one's own registered qualification, or as to the residence of the patient will render the certificate invalid, and the whole process must be repeated. So particular are the Commissioners in Lunacy that they have even ordered the discharge of a patient on the ground that the certificate was invalid, for the reason that it did not contain the number of the house in which he lived. On another occasion the same thing happened because the medical men signed certificates, not from what they observed on any particular day, but from what was known to them in consequence of having attended the patient during a considerable period of time previous to certifying. A failure to comply with any of the legal requirements is fraught with an unusual amount of danger, for the law punishes severely when certificates are given improperly, whether through ignorance, inadvertence, or wrong intention. Indeed, any person thinking himself aggrieved may by the law of the land obtain, upon his discharge, copies of the documents upon which he was incarcerated, and may sue and prosecute the granter of the certificate, possibly involving his professional and financial ruin. Good faith and reasonable care must be proved by the certifier. With regard to the medical certificate, it holds good for seven days and one of the certificates must, if possible, be signed by the usual medical attendant of the patient and if not the reason must be given. The two medical men, who must not be related or partners, must see the patient separately and the examination, if the certificates are signed in England or Wales, must take place in England; similarly with respect to Scotland and Ireland. The certificates must be signed within seven days of the presentation of the petition. No medical man may certify his wife or his immediate relatives; neither may he be connected with, nor in any way interested in, the institution into which the patient is to be received. The certifier must write down facts observed by himself at the time of the examination, otherwise the certificate is invalid. Those relating to incoherence, violence, or refusal of food are generally evident. Such statements as great taciturnity, complete seclusion from society, aversion to cleanliness, or wandering about the streets at unreasonable hours are sufficient. A statement by the person that he, or she, is lost and is without hope of forgiveness, that he will be taken to prison and die a miserable death, that the devil whispers in his ear that he has committed the unpardonable sin, or the fact that he is violent in his conduct and unable to take care of himself, is ample and clear ground for certifying. It is well to avoid the use of conventional and vague terms such as "bad temper," "excitement," and "emotional" in the certificate. If the symptoms of insanity be obvious to the most obtuse layman this in itself is not a sufficient guarantee that the certificate is valid. The provisions of the statute must be fulfilled, not only in the spirit but also in the letter. If a false certificate be given the certifier is guilty of a misdemeanour and the greatest care should always be taken that the statements made are relevant, exact, and accurate.

The petition, together with the two medical certificates, should be presented to a magistrate "specially appointed" under the Lunacy Act or a county court judge, or a stipendiary magistrate. Either of these may sign the order for the person's detention, without necessarily seeing the patient who must be received into the specified place within seven days of the signing of the order. If the patient is received into an asylum or hospital—not having been seen by the magistrate—he is presented with a notice of his right to an interview with a justice, and the patient exercises his own choice, a magistrate being summoned if he so wishes. Any magistrate not "specially appointed" can sign an order, but in that case the order must be countersigned by a specially appointed magistrate within 14 days. A list of justices "specially appointed" may be obtained from the clerk to any petty sessional division, the police, or the clerk to a board of guardians.

If the case be urgent there is a more expeditious method than the above of getting a private patient under treatment into an asylum, and that is through an "urgency order." A relative if possible, if not, some person whose connexion with the patient is stated, and who has seen the patient within two days, may make an order for his detention. This order must be accompanied by one medical certificate. The certifier must have seen the patient within two days of signing the certificate, and must give his reasons for the urgency. The patient must be admitted to the specified asylum within two days of the signing of the order, and the order remains in force for seven days, within which time the ordinary petition, the magistrate's order, and the two medical certificates must be obtained.

Cost of maintenance.—Insanity is the most expensive illness with which any person can be afflicted. Home treatment involves costly nursing; this and the fees for medical attendance may easily amount to ten guineas per week, depending upon the acuteness of the case and the accommodation required. The plan of taking a special house is of necessity a more costly one still, and may amount to more than double that of home treatment, and the method of single care is very often quite as expensive. If the case be quiet and chronic such a person may be kept in "single care" at much less, and there are many so placed at about £100 a year. The registered hospitals and some of the larger licensed houses may take cases also at as low a rate as 25*s.* or 30*s.* per week, but oftener the charge is from two to six guineas, determined by the accommodation required and the nature of the case.

Conclusion.—To use a current phrase, "What do you think of it all now?" One may reply that as the result of a general survey of this question of insanity—a disease which, with the progressive complexity of our civilisation, is undoubtedly on the increase, and a disease which strikes more real terror into the heart of a family than does any other ill to which flesh is heir—it is not too much to state that the study of the laws which regulate the natural dependence and interaction of the various powers and affections of the human mind, demands more attention than it gets. In America the study of psychology is much more common among students of all kinds, even those who pursue purely commercial pursuits, than it is in this country.[1] This study enables us to read through the whole gamut of aspiration and desire, from the most sensuous to the most moral and spiritual of experiences. The study of the human mind has been the aim of the great poets, philosophers, historians, and seers of the world, and to its neglect are due most of the illusions, impostures, and superstitions of our day; evils which bring in their train misunderstandings, injustice, and most of the chronic discontentments of life. Let more encouragement be given to the study of the mind

[1] Dr. C. S. Myers: The Teaching of Psychology in Universities of the United States. A paper read before the Psychological Society at Cambridge. (Journal of Mental Science, October, 1903.)

in health and disease. We are called upon to treat mental diseases in living men and women. Pedantry about the neuraxon avails us little; the only method is to familiarise ourselves, firstly, with the healthy mind and, secondly, with departures from this, such as are seen in the diversified types presented to us among the inmates of our large asylums, where alone the necessary experience can be obtained, and by this method alone can we hope to afford relief to the saddest affliction which can befall humanity.

Claybury.

ON THE USE OF PURE CARBOLIC ACID IN THE TREATMENT OF SMALL-POX.

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AND

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SINCE the publication of "A Note on the Use of Carbolic Acid in the Treatment of Small-pox" by the former of us (J. T. N.) in THE LANCET of Feb. 21st, 1903, p. 518, ample opportunity has been afforded for further testing its efficacy in this disease. Briefly, the following are the results of our extended experience of this remedy. Altogether we have employed this method of treatment in 136 cases. Of this number five died, which gives a death-rate of 3·6 per cent. This compares very favourably with the results obtained in other parts of the country. The epidemic, though not so virulent as some, was, we think, by no means a mild one, as out of the 136 cases 22 were of the confluent type, 12 were semi-confluent, and 103 were discrete. Of the latter 15, though discrete, were very severe cases. The patients on the whole were anything but efficiently vaccinated, so that the character of the disease and the modifying effects of vaccination did not materially contribute to this low mortality. The following table shows the number of cases, deaths, and percentage mortality under five and over five years of age.

—	Unvaccinated.			Vaccinated.		
	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.
Under five years ...	8	3	37·5	—	—	—
Over ,, ,, ...	27	1	3·7	101	1	0·99
Totals	35	4	11·4	101	1	0·99

The three unvaccinated children who died were all suffering from severe confluent small-pox; one was a baby whose mother was suffering from small-pox when delivered. The 27 unvaccinated cases above five years included some very severe ones, but the only fatal case was a chronic alcoholic who succumbed to heart failure following bronchopneumonia in the convalescent stage. Amongst the vaccinated the death was in a case of hæmorrhagic small-pox, which is almost invariably fatal.

The method adopted was that first mentioned—namely, to apply the pure liquid carbolic acid with a small camel's-hair brush to the vesicles over a certain area of the body each day, commencing with the face and head, until the whole of the vesicles had been touched. These applications were continued until the vesicles showed signs of drying up or of aborting. Some considerable time is required to do this as it should be done, carefully and thoroughly. Care must be taken also to avoid the acid running on to the healthy skin.

Although a careful watch was kept for the appearance of toxic symptoms carboluria was noticed in only two cases. Curiously enough, both belonged to one family, so that idiosyncrasy might possibly have had something to do with it, and it is quite possible that the acid may have been more freely applied than is usual or necessary in at least one of these cases. In some cases only one side of the patient was painted with carbolic acid and the other side was either left alone or treated with other local applications, such as carbolic acid with camphor, guaiacol in olive oil, or formalin. In all such cases it was plainly seen that carbolic acid gave the best results. This was, we thought, the simplest way to find out which drug applied locally gave the best results, especially as types of small-pox vary so in vaccinated persons. The application of the acid caused very slight and transitory pain and relieved the intense irritation. The patients never complained or scratched themselves. The effect appeared to be local, the pustules rapidly shrivelled and scabbed, and the further development of the papules and vesicles was either prevented or if not aborted comparatively little discharge resulted. In fact, all the vesicles had formed into scabs in from five to ten days after treatment, according to the severity of the cases, and in from ten to 18 days the scabs had fallen off, except of course those in the palms of the hands and the soles of the feet. The ulceration of the skin in the pustular stage was practically prevented, so that dermatitis with cutaneous and subcutaneous œdema was lessened, and the tendency to the formation of scars was not nearly so great. The offensive odour from the eruption was entirely absent and to a certain extent the application kept the patients clean. The absorption into the system of septic material from the pustules is either prevented altogether or is only very slight. This along with the lessening of the process of ulceration abolishes the secondary fever or renders it very mild. The temperature generally kept at a low level after the appearance of the pustular stage and was never much above 102° F. even in confluent attacks in unvaccinated persons, and was normal long before it usually is in untreated cases. Delirium was very infrequent and the pulse was not markedly increased, as is usually the case when the pustular stage is reached. The risk of infection by aerial convection is also, we consider, much lessened, and we can discharge a patient with a greater feeling of safety a week or a fortnight before the usual time, as the treatment cuts short the disease to that extent at least. There was an entire absence of complications, such as multiple abscess, &c. The early removal of the scabs was effected by means of carbolic oil, bread poultices, but best of all by "antiphlogistin," which tended to prevent the formation of small superficial abscesses.

Halifax.

THE ETIOLOGY OF YELLOW FEVER.

BY JAMES B. TOMBLESON, M.B., B.CH. OXON.

SINCE writing the article which has already appeared in these pages[1] I have examined more cases and done other work which throws light on the subject and which I wish to record here. For the purpose of making this record as short as possible and at the same time comprehensive I shall divide it into the following heads: (1) a tabulated analysis of the more important points of 25 cases with a few remarks; (2) a record of the finding of the bacillus in infected mosquitoes and in their larvæ; and (3) a few remarks about the method of staining which a more extended experience has shown to give the best results, and one or two general statements which may be of interest.

It will be noticed that of the 25 cases in the accompanying table four were diagnosed by Dr. McPherson, port officer at Salina Cruz; one was diagnosed by Dr. Stubbs, the American consular agent at Coatzacoalcos. This I mention to show that I have not relied solely on cases diagnosed by myself; moreover, often I have been accompanied in my visits by Dr. Ribenack, late port officer at Salina Cruz, who has lived here during the last few months and he has always agreed with my diagnosis in these cases. In every case I have found my bacillus present, without any exception, and from the urine in every case I have cultivated it almost always in pure culture, but in a few cases with an admixture of pus cocci or Finlay's micrococcus tetragenus. In Case 25 and in another which I have not included I found malarial parasites as well, often seeing parasites and bacilli together in the same corpuscle.

It will be seen from the table that I examined the liver

[1] THE LANCET, August 29th, 1903, p. 594.

TABULATED ANALYSIS OF 25 CASES OF YELLOW FEVER.

Case.	Date.	Nationality.	Highest temperature (Fahrenheit).	Highest amount of albumin.	Facies.	Tongue.	Pains.	Temperature-pulse ratio.	Day of disease when first seen.	Result.
	1903.									
1	Feb. 24th.	British.	108·6°	One-sixth.	Typical.	Typical.	Typical history.	104·5°—69 / 104·4°—80	Fifth or sixth.	Death.
2	,, 27th.	,,	103·4°	Large trace.	,,	,,	Typical.	103·4° - 84	First.	Recovery.
3	May 6th.	American.	104·3°	One-sixth.	Fairly typical.	More like malaria.	,,	104·3°—84 / 103·6°—78	Third.	,,
4	,, 9th.	,,	105·5°	One-half (urine suppressed for 24 hours).	Typical.	Flabby red tip.	Typical history.	105·5°—84 / 102·6°—78	Fifth.	,,
5	,, 12th.	Mexican.	104·6°	One-sixth.	Atypical; pale.	Typical.	Typical and in liver.	104·6°—100	First.	,,
6	June 15th	,,	103·6°	One-half.	Atypical; pale.	,,	—	103·6° - 94	Fifth.	Death.
7	,, 18th	Specimen of blood sent from Coatzacoalcos by Dr. Stubbs, passed per rectum by a patient imported from Vera Cruz.								
8	July 11th	American.	105·4°	One-half.	Rather pale.	Typical.	Typical and in chest.	105·4°—100 / 104·6°—98	Third.	Recovery.
9	,, 29th	,,	104·6°	Seven-eighths.	Typical.	,,	Typical.	104·6°—102 / 104·6°—98	First.	,,
10	August 11th	Specimens (two) of urine from patients at Salina Cruz sent by Dr. McPherson containing respectively two-thirds and three-fourths albumin.								Death (both).
11	,, ,,									
12	,, ,,	American.	104·0°	Solid.	—	—	—	104·0°—72 / 102·6°—64	Sixteenth in relapse.	Death.
13	,, 14th.	Specimens (two) of liver and kidney taken post mortem from Mexicans and sent by Dr. McPherson from Salina Cruz.								
14	,, ,,									
15	,, 20th.	American.	100·4°	Trace.	—	—	Typical history.	100·4°— 58	Sixth.	Recovery.
16	,, 21st.	British.	103·0°	One-sixth.	Typical.	Typical.	Typical and in liver.	103·0°— 74 / 102·6°— 82	Third.	,,
17	,, 22nd.	American.	106·4°	One-fourth.	,,	,,	Typical.	106·4°—112 / 104·0°— 84	Second.	,,
18	,, 25th.	,,	101·3°	None.	,,	,,	,,	101·3°— 68 / 100·4°— 52	Fourth to Sixth.	,,
19	,, ,,	,,	104·5°	Trace.	,,	,,	,,	104·5°—104 / 104·0°— 92	First.	,,
20	,, ,,	,,	102·1°	,,	,,	,,	,,	102·1°— 84	Second.	,,
21	,, ,,	Mexican.	105·2°	One-half.	,,	,,	,,	104·3°—112 / 105·2°—112	,,	Death.
22	,, 31st.	American.	101·8°	Trace.	,,	,,	,,	101·6°— 64 / 101·8°— 64	,,	Recovery.
23	,, ,,	,,	99·6°	None.	,,	,,	,,	99·6°— 84 / 99·8°— 83	First.	,,
24	Sept. 2nd.	,,	103·4°	Large trace.	,,	,,	,,	103·4°— 92 / 101·6°— 68	Third.	,,
25	,, 3rd.	British.	104·5°	One-sixth.	,,	,,	Malarial.	104·0°—112 / 102·6°— 94	,,	,,

By *typical facies*, flushed, stupid-looking face, with injected conjunctivæ, is meant. By *typical tongue*, one furred but not very heavily with red edges and tip is meant. By *typical pains*, severe headache (frontal and occipital), severe pain in the back and the loins and in the whole muscular system are meant.

REMARKS.

CASE 1.—Icterus was present when first seen, with black vomit and motions. Bacilli were found in the blood and cultivated from the urine.

CASE 2.—Icterus showed itself in the conjunctivæ on the second day. Bacilli were found in the blood; no cultures were taken.

CASE 3.—Icterus was present in the conjunctivæ on the third day. Bacilli were found in the blood and cultivated from the urine.

CASE 4.—When first seen there was icterus over the whole body. Bacilli were found in the blood and urine. Black vomit occurred once.

CASE 5.—Icterus was present in the conjunctivæ on the third day. Black vomit occurred on the fifth and sixth day. Bacilli were cultivated from the urine; no blood was taken.

CASE 6.—Icterus was present when first seen as was also black vomit. Bacilli were cultivated from the urine; no blood was taken.

CASE 7.—Bacilli were found in, and cultivated from, the specimen.

CASE 8.—When first seen icterus was present and later spread over the whole body. Bacilli were found in the blood and cultivated from the urine.

CASE 9.—Icterus was present over the whole body. Black vomit occurred once. A relapse ensued. Bacilli were found in the blood and cultivated from the urine.

CASES 10 and 11.—Bacilli were found in, and cultivated from, both specimens.

CASE 12.—The patient was only seen in a relapse. Black and red blood was vomited. Icterus was present, especially after death. Bacilli were found in the blood and urine.

CASES 13 and 14.—Bacilli were demonstrated in both tissues from both patients.

CASE 15.—Icterus was present over the whole body. Bacilli were found in the blood and cultivated from the urine.

CASE 16.—Icterus was present in the conjunctivæ on the fourth day and later spread to the whole body. Bacilli were found in the blood and cultivated from the urine.

CASE 17.—Icterus was present in the conjunctivæ on the third day and later spread over the whole body. Black vomit occurred once. Bacilli were found in the blood and cultivated from the urine.

CASE 18.—When first seen icterus was present in the conjunctivæ. Bacilli were found in the blood.

CASE 19.—Icterus was present in the conjunctivæ on the third day and later spread to the whole body. Flaked vomit occurred once. Bacilli were found in the blood.

CASE 20.—Icterus was present in the conjunctivæ. Bacilli were found in the blood.

CASE 21.—Icterus, black vomit, and hiccough were present. The patient died from uræmia. Bacilli were found in the blood and cultivated from the urine.

CASE 22.—Icterus was present in the conjunctivæ on the third day. Bacilli were found in the blood.

CASE 23.—Bacilli were found in the blood.

CASE 24.—Icterus was present in the conjunctivæ and also over the whole body. Three coffee ground motions were passed. Bacilli were present in the blood and urine.

CASE 25.—Icterus was present over the whole body. Bacilli were found in the blood and cultivated from the urine.

and the kidney post mortem in two cases, sent by Dr. McPherson from Salina Cruz, and found the bacilli in all the specimens. In this connexion I think it worthy of notice that among my specimens prepared last year at the London School of Tropical Medicine I found two of yellow fever material; these I dismounted and decolourised, and then re-stained with toluidin blue, and in them demonstrated the presence of the bacilli in large numbers. As a check on my results I examined coincidently many cases of malaria and always failed to find the bacillus except in the two cases mentioned before in which malaria and yellow fever were coexistent.

Work on mosquitoes.—First I fed two mosquitoes on Case 9 in my series, killed them by putting them straight into form-alcohol (formalin 10 per cent. and alcohol 90 per cent.), imbedded them, and cut sections from one; in these the bacilli were so abundant that I at once sent section blocks straight off to London where they are now. Then I prepared a series of six in the same way, showing every stage from 24 hours after the ingestion of the blood to the time when it was completely digested. These were fed on Cases 22 and 24 and in all of them I found the bacillus in every stage of growth and sporulation. In some beautiful specimens I found the bacilli in the proboscis, evidently ready for injection into another individual. I then grew some larvæ in water containing urine from one of my yellow fever patients (I do not know whether or not the parent was infected), and imbedded and cut them, and in these also I found the bacilli in all stages of growth. I then tried to get some infected mosquitoes to breed in clean water in my cage, but they refused to lay eggs, and so this experiment failed.

After this for two or three weeks circumstances prevented me from doing anything further, and then the norther season began, and at the same time the disease disappeared, and so for further work I must wait till next year.

Method of staining.—The best results which I have obtained have been secured by staining with a carbo-toluidin blue prepared as follows. To a 5 per cent. solution of carbolic acid I add enough saturated solution of toluidin blue in absolute alcohol to make the mixture of a deep blue colour; I stain with this for three hours, dry by heat (I always put the slides for ten minutes in the incubator) without any dehydration with alcohol, clear with xylol, and mount. This refers, of course, to sections; in the case of blood slides naturally no dehydration or clearing is needed. The colour fades out of the bacilli very quickly, much sooner than out of the tissues.

Before closing this little notice I should like to call attention to one point in the treatment of the disease. I always make a practice of using large injections of warm water into the large bowel from the beginning of the third day of the disease to the end. I inject two quarts twice daily, taking half an hour or more over the operation, so as not to distress the patient, and have found it always most beneficial; in fact, I believe that if this course were always followed secondary fever would entirely disappear and the disease would lose much of its terrors.

Rincon Antonio, Istmo de Tehuantepec.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus Morb.*, lib. iv., Proœmium.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

A CASE OF IMPLANTATION OF THE DIVIDED THORACIC DUCT INTO THE INTERNAL JUGULAR VEIN; RECOVERY.

(Under the care of Mr. E. DEANESLY.)

FOR the notes of the case we are indebted to Dr. G. Wright, house surgeon.

A woman, aged 34 years, was admitted into the Wolverhampton and Staffordshire General Hospital on Sept. 24th, 1903, for the removal of tuberculous glands from the left side of the neck. Two large glands, already caseous, lay in the anterior triangle immediately below the angle of the jaw and from these a continuous chain of glands, also caseating and deeply adherent, extended along the carotid sheath for its whole length and also beneath the sterno-mastoid into the posterior triangle. The lowest gland, of the size of a walnut, lay behind the clavicle immediately over the junction of the jugular with the innominate vein. The upper part of the anterior triangle was cleared of glands through an oblique curved incision in the fold of the neck, the jugular vein being exposed and cleaned. A second incision parallel to the first was made over the posterior triangle a short distance above the clavicle and the remaining chain of glands was dissected out. During the removal of the lowest gland a small hole was made in the internal jugular vein close to its junction with the innominate. It was found impossible to close this securely without dividing and ligaturing the jugular vein itself. As an additional precaution the jugular vein was also ligatured again in the anterior triangle where it was already exposed. Copious escape of milky chyle now led to a search for the thoracic duct which was found to be completely divided close to its termination. Owing to the natural curve in the duct, which arches upwards for some distance and then descends to its junction with the great veins, it was easy to free it in an upward direction and to dissect it out for over an inch. The divided end could then be brought up to the internal jugular vein above the ligature on the latter without tension on the duct. As the internal jugular vein had also been ligatured at a higher point in its course, near the corner of the hyoid, it was necessary to demonstrate that the portion of the vein lying between the two ligatures possessed collateral circulation, as it presumably did through the thyroid veins. This fact having been proved by puncturing the vein and noting free hæmorrhage and refilling of the vein the divided end of the thoracic duct was implanted into the punctured opening in the vein by two sutures of the finest silk in such a manner that about one-eighth of an inch of the duct projected within the lumen of the vein. Hæmorrhage during the implantation was controlled by a lightly applied clamp immediately above the punctured opening. The sutures were passed through all the coats of both vein and duct in such a manner as to avoid occluding the opening in the duct. As the latter was of the size of a large goose quill this was satisfactorily accomplished and on removing the clamp from the vein no further hæmorrhage occurred. The wound was closed and a small gauze drain was inserted.

At the first dressing, 24 hours after the operation, there was a rather copious albuminous discharge but there was no means of determining whether this consisted of chyle or not. It seemed, however, larger in amount than the ordinary wound serum. On the second day the discharge had not saturated the dressing and from that day there was no suspicion whatever of discharge of chyle. The upper wound healed by primary union; healing of the lower wound was slightly delayed by superficial suppuration, but the patient returned home with both wounds completely healed 18 days after the operation. No untoward symptoms of any kind occurred, either during convalescence or subsequently, and the patient remained in good health when seen two months after the operation.

Remarks by Mr. DEANESLY.—I am not aware that the method of dealing with a divided thoracic duct adopted by me in this case has been adopted before though it has some obvious advantages where it can be carried out. The older text-books of surgery considerably exaggerated the seriousness of division of the thoracic duct which in an edition of a well known work dated 1887 is briefly described as a fatal injury. Death was said to occur either from escape of chyle into the mediastinum or from the exhausting effects of the continual escape of chyle through a fistulous opening in the neck. Later experience entirely refutes these statements and it is probable that death in the earlier recorded cases was due to septic infection of the neck and mediastinum and not to the injury of the duct itself. With regard to the possible formation of a chronic fistula and the effects of such a condition on the nutrition of the body, I know of no case recorded in which such a fistula existed for a sufficient length of time uncomplicated by septic wound conditions to arrive at any conclusion. But from modern clinical experience it is improbable that a permanent fistula will ever occur. Treves in his "Surgical Anatomy" states that the thoracic duct has been cut and tied without ill result and Kocher reports the same fact on his own authority in his "Operative

Surgery." Allen and Briggs, in *American Medicine* of Sept. 14th, 1901, report 15 cases of injury of the duct during operation with 14 recoveries. In what proportion of these the duct was completely divided I do not know. I am informed also by Professor Starling that he has invariably failed in attempts to establish a permanent fistula of the thoracic duct in dogs, even when the opposite duct has also been ligatured; indeed, in dogs the collateral circulation in the lymph channels is so free that, according to Professor Starling, simultaneous ligature of both the right and left thoracic ducts in the neck produces only a temporary obstruction and no permanent ill effects. Taking these facts into consideration it is probable that ligature of the divided duct is the simplest procedure in cases of accidental injury. As implantation of the duct into the vein seemed to me, however, at the time a procedure more in accordance with physiological ideas it is perhaps worth recording as an alternative method where practicable.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Leukæmia.—Exhibition of Specimens.

A MEETING of this section was held on Dec. 14th, Dr. H. C. EARL, the President, being in the chair.

Dr. T. G. MOORHEAD read a preliminary account of some investigations which he had been making into the etiology of Leukæmia. He said that he had prepared a series of extracts from glands obtained post mortem from a case of lymphatic leukæmia and claimed to have produced leukæmic changes in rabbits by the injection of one of these (sterilised) extracts. The changes found consisted in enlargement of the spleen and of several groups of lymph glands and in the red marrow excessive development of nucleated red blood corpuscles. Quantitative and qualitative changes were also observed in the white cells of the blood. Injections of a similar extract prepared from normal human lymph glands did not produce any change in the hæmopoietic tissues of rabbits. The extract from the morbid glands caused a pronounced fall in blood pressure while the similar extract from normal glands had no such effect.—Professor E. J. MCWEENEY asked whether Dr. Moorhead had used glands from myelogenic or lymphatic leukæmia and said that inasmuch as their pathology was different this was a matter of much importance.—Professor J. A. SCOTT said that he was so far from thinking that the various forms of leukæmia were different that, on the contrary, he believed that the principle of cellular intoxication might fairly be extended from the lymphatic lesions to other cellular conditions, such as sarcoma or cancer, which were also associated with blood changes.

Dr. W. S. HAUGHTON showed a Rectum, Pelvic Colon, and part of Iliac Colon removed for carcinoma recti by the double method of laparotomy and transacral incision six weeks previously. The patient was going on well. The tumour was a typical adeno-carcinoma of the rectum extending around the lumen of the bowel for more than three inches in length, without infiltration of the perirectal tissues or glands.

Dr. ALFRED R. PARSONS showed specimens removed from a man, aged 20 years, who was admitted to the Royal City of Dublin Hospital on Sept. 23rd suffering from Jacksonian Epilepsy. The patient, who had been previously in good health with the exception of a chronic cough, was suddenly seized with a convulsion and was carried into hospital during the attack. The lower half of the left side of his face and the left arm from the elbow downwards were paralysed. He had, however, no loss of power in his left leg but the reflexes were exaggerated. The paralysis gradually increased till he had complete left hemiplegia with greatly increased deep reflexes. There was bronchiectasis in the lower lobe of the left lung. As there was no ear disease present a diagnosis of intracranial abscess near the Rolandic area secondary to chronic pulmonary suppuration was made and Mr. G. J. Johnston trephined the patient over the arm centre but found no pus. At the necropsy the lower lobe of the left lung was found to consist of numerous bronchiectatic cavities filled with pus and in the brain there was a large abscess filled with greenish pus lying directly underneath the arm centre not more than half an inch from the cortex. The needle used in exploring must have entered the abscess cavity but before doing so had probably become plugged with brain tissue.

Dr. J. T. WIGHAM showed a Cancer of the Breast and Various Internal Organs secondarily affected, with sections. The cancer was of the ordinary type of scirrhus and was well marked, the interest in the case lying in the route by which the disease had spread to the internal organs. Cancer nodules could be discovered in the liver and under the pleura, the pericardium, and the endocardium, and sections showed the growth pushing through the heart fibres between the two last. Similar growths were also found in both ovaries and along the course of the Fallopian tubes, while the peritoneum was quite free and no other cancer masses were discovered below the level of the liver.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 4th, Dr. Seymour Taylor, the President, being in the chair.—Mr. F. G Lloyd read a paper on Appendicitis. In dealing with the treatment of the affection Mr. Lloyd expressed a leaning towards conservatism and stated the conditions calling for surgical interference together with the methods of procedure which he had found most useful.—The discussion on this paper was postponed to a future meeting of the society.—Dr. Alexander Morison read a paper on Boldness in the Treatment of Heart Disease. The cases to which attention was specially directed were those instances of grave cardiac failure occurring in young adults or in those in the prime of life in whom there was no evidence of vascular degeneration and whose reserve force was commensurate with their development. In these tincture of digitalis or the combined tinctures of digitalis and strophanthus were recommended in doses of 15, 20, 25, or 30 minims at intervals of four hours until a definite effect was produced upon the action, force, and capacity of the dilated and failing heart. This might require the continuous administration of the drug until 200 or 300 minims had been taken. Before beginning this method of treatment, however, it was necessary to prepare the patient in certain particulars for the action of the remedy. The surcharged venous system should be relieved in suitable cases by venesection (which Dr. Morison preferred to leeching) to four or ten ounces, the anasarcous limbs drained by Southey's tubes or by incision, and fluid effusion in the chest or abdomen removed as far as possible. With the assistance of good nurses the method might be efficiently carried out in the patient's own home. That there was a certain element of risk in this rapid method of obtaining cardiac control was admitted, but provided that only suitable cases were selected and sufficient skilled supervision and control were exercised this risk was by no means great.—Dr. Lilienstein (Bad Nauheim) expressed agreement with the views of Dr. Morison as they were in accord with his own observation and experience. At the same time he deprecated the use of digitalis and its congeners in cases in which the action of the drug was not called for. A careful consideration of the conditions of the individual case was important in all instances of disorder of the heart, and this held good not only in the matter of medicines but also with reference to physical therapeutics. The use of the carbonic acid bath was an instance in point and harm might easily be done to patients who were not carefully watched. He attached great importance to sparing the heart and was in the habit of interposing after the second, third, or fourth day of bathing a bath-free day. Dr. Lilienstein also referred to the importance of mechanical treatment of heart cases (such as massage and active and passive gymnastics). He agreed with Dr. Morison's remarks as to the value of blood-letting in suitable cases.—The President considered that the tendency of modern medicine in the treatment of cardiac failure was summed up in the word "boldness." Probably had those methods of treatment which had been so ably advocated by Dr. Morison been suggested in the immediately preceding generation of practitioners they would have been received with opposition if not with ridicule. But modern clinical experience was altering their views of treatment. In the great majority of cases of heart failure not only was there a want of balance between the two sides or between two cavities of the heart

but there were results of this, and so far as he was able to read the phenomena of heart failure congestions of various organs and parts constituted in great measure the enemy which had to be attacked. Therefore he resorted to venesection in many instances and to leeching frequently, but trusted more to the former than to the latter method. Nor did he overlook the advantage which sleep afforded in these cases and frequently prescribed opium or morphia providing the kidneys were free from organic disease. There was, however, no "golden rule" in the treatment of such cases and the peculiarities and idiosyncrasies of the individual had to be taken into account as well as the visceral malady in formulating any line of treatment.—Mr. R. W. Lloyd, referring to an allusion to the work of the anæsthetist in Dr. Morison's paper, pointed out that there were differences between the methods of the physician and the anæsthetist in the matter of heart control.—Dr. Neville T. Wood agreed with Dr. Morison that in a limited number of cases large doses of digitalis after suitable preparation of the patient would produce results that might be fairly described as startling but in another class of case equally extraordinary results could be obtained by the use of almost infinitesimal doses. He, therefore, preferred to advocate precision rather than boldness in cardiac therapeutics.—Mr. W. P. Mallam quoted a case of aortic regurgitation accompanied by extreme cardiac pain and distress in which complete relief followed blood-letting to the extent of eight ounces.—Dr. Morison replied.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 10th, when Mr. E. W. Roughton opened a discussion on the Hygiene of the Mouth. In the course of his introductory remarks Mr. Roughton referred to the power of the mouth to produce disease in other parts of the body being due to its acting as a hotbed of bacterial growth. In cases of extensive caries and of well-marked pyorrhœa alveolaris the number of the mouth bacteria was enormously increased. It was also probable that their virulence was enhanced and that the general health of the patient being deteriorated the power of resistance to bacterial invasion was diminished. The functions of the digestive tract were materially influenced by the condition of the mouth. When the latter was clean and well cared for the bacteria of the intestines were almost entirely (about 97 per cent.) derived from food and drink, but in persons with neglected mouths as many as 30 per cent. of the bacteria present in the fæces must be regarded as derived from the mouth itself. Not only might the bacteria of the mouth set up fermentation of the stomach contents but they might actually attack the wall of the stomach, producing different forms of gastritis. Evidence seemed to point to the mouth as the source of infection in many obscure cases of blood poisoning, using the term in its widest sense. Malignant endocarditis, infective osteomyelitis, septicæmia, and obscure febrile conditions had all been attributed with good reason to infection from the mouth. The intimate connexion between tonsillitis and acute rheumatism was shown by the frequency with which the former preceded or accompanied an attack of the latter. Chronic joint diseases were often associated with oral sepsis and they were sometimes benefited by improving the condition of the mouth. The mouth was also a means of transmitting disease from person to person. Diphtheria bacilli were sometimes found in the healthy mouth and it was common for virulent organisms to remain in the mouth and throat for weeks after a patient had apparently completely recovered from an attack of diphtheria. Operations in unclean mouths were attended with risk to the operator. Many cases of local and general septic infections had occurred in this way. Syphilis had often been transmitted by the saliva of an infected person. The treatment of carious teeth must of necessity be almost entirely in the hands of the dentist but the prevention of caries should come within the sphere of every medical man. General hygienic measures, avoidance of excess of carbohydrate food, especially bread and potatoes, and thorough mechanical cleansing of the teeth should be urged more cogently than most medical men were in the habit of doing at present. Children's temporary teeth should not be allowed to fall into a state of neglected decay. Only by periodical inspection could freedom from caries be insured. Acids introduced into the mouth as medicines or with the food had a deleterious effect on the teeth; the mouth should therefore be well rinsed after taking such medicines. The reaction of mouth washes should be neutral or slightly alkaline. In febrile conditions the mouth should be cleansed by the nurse; this would add to the patient's comfort and would hasten his convalescence by enabling him to take food. In investigating a case of dyspepsia the physician should not omit to examine the mouth and should insist that dental insufficiency or abnormal oral sepsis should be adequately treated. Before performing operations on the mouth or jaws carious teeth should be filled and stumps extracted and the parts made as aseptic as possible by the use of a suitable antiseptic mouth wash.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Dec. 17th, Mr. Rashton Parker, the President, being in the chair.—Mr. W. Thelwall Thomas exhibited Receptacles for Dressings designed by him to facilitate the carrying out of aseptic surgery in private practice. The boxes are rectangular, the lid being placed underneath and let in in such a way that when the box rests on a flattened surface dust cannot enter; the sides have perforated "hit-and-miss" slides. They fit into a large steam steriliser and each box will hold the necessary dressings, bandages, sheets of sterilisable waterproof material covered with thick muslin, and two specially designed gowns. A dark mackintosh cloth case fits over the box.—The President said that the boxes shown were by far the most convenient and suitable ones he had seen.—Dr. A. Gordon Gullan showed a lad, aged 18 years, suffering from Morbus Cœruleus. He was able to follow his trade as a watchmaker. There were signs of enlargement of the right heart with obstruction of the pulmonary artery and probably a patent ductus arteriosus.—Dr. Gullan also reported two cases of Cretinism in youths 20 years of age, one patient being shown. Both were typical cases. One was improving under thyroid and the other had shown no improvement.—Dr. Hubert Armstrong referred to the risk of Sudden Death in Congenital Heart Disease, and mentioned two cases in his own experience, one a baby and the other a boy, aged 12 years.—Mr. A. Nimmo Walker showed a woman, aged 49 years, with Double Optic Atrophy and Double Third Nerve Paralysis. There was a history of "inflammation of the bowels" two years previously, with vomiting and headache, and the lesions were probably due to a basal syphilitic meningitis implicating the affected nerves in the interpeduncular space and the chiasma. Mr. Walker said it was a rare case and had only occurred once in 9000 patients seen at St. Paul's Eye and Ear Hospital in the present year. Some power was returning under mercurial inunction and iodide of potassium internally.—Mr. George G. Hamilton read a paper on Rapid Paraplegia and reported a case which will be published in full later. In commenting upon the case he thought discussion might usefully turn upon the following conditions: traumatic neurasthenia, meningitis, spinal hæmorrhage, Landry's paralysis, peripheral neuritis, and toxic palsies. In this particular case the post mortem examination revealed a hæmorrhagic myelitis.—Dr. E. E. Glynn had examined the spinal cord and cerebro-spinal fluid and had found no evidence of bacterial infection.—Dr. W. B. Warrington said that many cases of so-called acute myelitis were really due to softening of the cord following syphilitic arterial disease but the differential diagnosis was difficult. He suggested that a syphilitic history, the spread of the symptoms from one limb to the other, with the Brown-Séquard features, might help and quoted two cases in which this symptom-complex was present. Primary hæmorrhage into the cord was extremely rare. It was important to recognise a syphilitic origin for its guide to treatment.—Dr. T. R. Glynn, Dr. Nathan Raw, Dr. W. Carter, and Dr. J. Barr spoke and Mr. Hamilton replied.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 10th, Dr. Heywood Smith, the President, being in the chair.—Dr. H. Macnaughton-Jones showed a Modification of Bossi's Instrument for dilating the Cervix much less cumbersome and much easier to work than the original model which, in 1901, he had been the first to use in this country. Since that time many cases of labour had been successfully and expeditiously concluded by the aid of that instrument and he believed that the lacerations which had in some cases followed its use on the continent and in America were to be attributed to want of caution in its application or to too rapid dilatation.—Dr. H. Macnaughton-Jones, jun., said he had used the instrument shown to induce labour at the eighth month

in a tertipara with a large fibroid and found it most satisfactory.—Dr. Macnaughton-Jones, sen., also showed Various Specimens with the aid of the epidiascope.—Dr. Bedford Fenwick read a paper upon the Treatment of Stenosis of the Cervix, especially in regard to that congenital form found with a conical portio and a pinhole os, and generally associated with dysmenorrhœa and sterility. After division of the cervix on each side for about half its length with scissors his method was to draw the flap formed by the anterior lip together, longitudinally, with temporary sutures and to leave the posterior lip flat and open; direct union of the surfaces of the wounds was thus prevented, they became covered with mucous membrane so that they did not afterwards adhere, and the patency of the canal was maintained. In 87 cases in which he had practised this operation it had invariably given relief and from subsequent investigation he had reason to believe that in 91 per cent. of these cases the relief had been complete and permanent. Moreover, the method had been equally successful in the hands of others who had adopted it after seeing him apply it at the Hospital for Women, Soho.—In the discussion Dr. C. H. F. Routh and Dr. G. R. Hodgson concurred in recommending the use of a stem pessary instead of operation, and Dr. Macnaughton-Jones and the President in preferring division of the isthmus with Sims's knife followed by dilatation.—Dr. Fenwick briefly replied.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—The third meeting of the session of this society took place on Dec. 14th, Professor R. Muir, the Vice-President, being in the chair.—Dr. John Anderson showed the organs from a case of supposed Splenic Anæmia.—Professor Muir exhibited a Liver containing very large Carcinomatous Tumours secondary to an adeno-carcinoma of the sigmoid flexure. The patient was only 26 years of age and the disease ran its course in three months; there was no jaundice. The weight of the liver was 14 pounds.—Dr. J. Barlow showed a specimen of Enteric Intussusception successfully treated by resection of the bowel and read a short account of the case. The intussusception was very tightly strangled; it contained fully 15 inches of intestine.—Mr. R. H. Parry showed (1) a Tumour of the Prostate removed by Freyer's method; and (2) a large Fæcal Concretion which was lodged in the cæcum and which necessitated excision of the cæcum. The symptoms pointed to malignant disease in the cæcal region but microscopical examination of the specimen showed nothing of this nature. The operation was successful.—Dr. J. Lindsay Steven and Dr. C. Workman described the clinical features of, and showed the heart from, a case of sudden death caused by Embolism of the Main Trunk of the Left Coronary Artery.—Dr. Carstairs C. Douglas communicated a short note on the Ortol Reaction for Milk and demonstrated the test. It enabled a distinction to be made readily between fresh milk and milk which had been pasteurised at too high a temperature. The fresh milk gave a brick-red reaction on the addition of ortol and peroxide of hydrogen, while the sterilised or boiled milk remained colourless. The importance of this in relation to infantile scurvy was discussed.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Dec. 18th, Dr. Leslie Durno, the President, being in the chair.—Mr. F. Hewitt Oliver showed a boy, aged 11 years. At the lower end of the left radial diaphysis was a swelling of bony hardness and ridged, neither tender nor painful. The enlargement was of about two radial diameters. There was a slow increase of size from its reappearance six months ago as of a similar but smooth swelling of the proximal phalangeal shaft of the left index. Both of these growths had been removed three and three-quarter years ago. The left forearm was about one inch shorter than its fellow.—Dr. B. G. Morison related a case of a woman whose labour began naturally at the eighth month. The placenta was attached to the margin of the internal os uteri and the child presented transversely. The placenta was separated by the hand under chloroform and forceps were applied to the vertex. The child was born dead and peeling. About half an hour after delivery and soon after removing the hand from over the uterus a moderate-sized clot was passed and the patient nearly collapsed. Saline enemata were given and followed by uterine irrigation with a solution of fluid extract of suprarenal gland (one drachm to the pint). Good uterine contraction immediately followed the irrigation and no more hæmorrhage occurred. Pyrexia began on the evening of delivery and on the third day left basic pneumonia was diagnosed, from which the patient recovered on the fourteenth day.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—An ordinary meeting of this society was held in the Medical Library of University College, Bristol, on Dec. 9th, Mr. J. Paul Bush, the President, being in the chair.—Mr. T. J. Tonkin (introduced by Mr. F. Richardson Cross) read a paper on Leprosy in Jamaica, illustrated by lantern slides.—The President, Dr. Fisher, Dr. J. Michell Clarke, Dr. C. Steele, Dr. Cave, and Dr. Alexander joined in the discussion which followed.—Mr. Munro Smith showed a specimen and some lantern slides from a case of Gastro-jejunostomy.—The President, Mr. F. Lace, and Dr. E. W. H. Groves remarked on the case.—Mr. Lace read short notes of a case of Intestinal Obstruction due to a hair ball and showed the specimen.—The President, Dr. Alexander, and Dr. Groves spoke on the case.

Reviews and Notices of Books

Hydrologie. Par HENRI CAUSSE, Chargé du Cours d'Hydrologie à la Faculté de Médecine et de Pharmacie de Lyon. Paris: F. R. de Rudeval. 1903. Pp. v.–317. Price 5 francs.

THERE are already in existence a very large number of books on potable waters, on water analyses, and on mineral waters, and it might *primâ facie* appear that another volume on these subjects was not required. The recent progress made, especially in the fields of bacteriology and in the chemistry of the organisms contained in water, has, however, made it possible that an entirely new book devoted in great part to these aspects of the subject would fill a gap which remained vacant in the literature of the subject. It frequently happens in the case of any science which has undergone rapid development that an entirely new work is best fitted to treat the new situation, whereas in the case of a subject of which we have a more complete and certain basis of knowledge the same book may go on from generation to generation. For instance, Gray's Anatomy survives.

Dr. Causse's work is divided into five parts. The first is an introductory disquisition on potable water and teaches the effects of the soil on its composition, showing how it comes about that the chemical composition of the water varies as a result of its passage through the earth. The second part deals with the methods of chemical analyses and with the interpretation which should be put on the results of the analyses. The third part is devoted to the bacteriology of the subject, including the methods in use for the artificial cultivation on gelatin of the more common of the pathogenic microbes found in water. In the fourth part the author first describes the various effects of different waters on certain reagents which yield results to be estimated by changes produced in their colour, and the interpretation of these changes, and in the second place he treats of the different contaminations which are liable to affect potable water. The fifth division of the book is devoted to a description of mineral waters and to the special methods adopted for their analysis. To the English reader we would specially commend this chapter. The book is well written, clearly illustrated, and provided with a good index.

The Exact Science of Health based upon Life's Great Law. By ROBERT WALTER, M.D. Vol. I., Principles. London: Kegan Paul, Trench, Trübner, and Co., Limited. Pp. 302. Price 10*s.* 6*d.*

THIS work is said to be "really an argument based on facts." But they are "facts of demonstration rather than of observation." The author feels that he has incurred a grave responsibility in making the claims which he does, but his are "not the vapourings of a novice" but rather the product of nearly 50 years of earnest study which has culminated in

the "development and verification" of "Life's Great Law." There is, it would appear, a trinity of fundamental laws, the discovery of each of which in turn has revolutionised the world of science. Gravitation, the author tells us, gave us a trustworthy astronomy, chemical affinity gave us chemistry, while Life's Great Law yields a correspondingly trustworthy vital science. He proceeds to enunciate the great law and the present volume is occupied chiefly in an examination of the exact science of health and the principles upon which the knowledge is founded. A second volume is promised and this is to deal with the practice founded on the principles here stated. A brief foretaste is given of the manner in which the principles are to be applied and those who dislike the dry details of clinical observations and the toilsome investigations of the laboratory may possibly care to study the unfettered *ipse dixits* of the author who gives his views on the treatment of diphtheria and pneumonia with a confidence which may excite admiration. It is, however, unlikely that his teaching will cause amongst English physicians the imitation which is the sincerest form of flattery.

It was formerly the practice amongst the reviewers of novels not to destroy any possible interest there might be in their plots by fully revealing them to the public. We have the like feeling in the case of the author of this work and must therefore refer the curious reader to the book itself for a full enunciation of Life's Great Law which he will readily find set out in bold type. It should, however, in fairness be added that we do not think the secret worth the price asked for the book—and when applied in practice, as suggested by the author, it is subversive of all faith in the most striking developments of modern practice.

LIBRARY TABLE.

The Study of Tropical Diseases in Dutch India.—The second part of the forty-first volume of the *Geneeskundige Tijdschrift voor Nederlandsch-Indië* contains a synopsis of the course that is to be followed at the institution for the study of tropical diseases which has been established in Weltevreden, Java. Similar institutions have been organised at various places in Europe but the Dutch medical authorities are of opinion that better opportunities for the attainment of the end in view are to be met with in tropical regions than can possibly be forthcoming within the temperate zone. In the first place the diseases in question can be investigated during their acute stages, and, secondly, their mode of origin can be scrutinised in their own home. There is also scope for original research in the well-known fact that some affections with which European medical men are familiar frequently follow a distinct course under the influence of an eastern sun. The director of the laboratory at Weltevreden is Dr. J. de Haan. Dr. G. Grijns is the sub director and Dr. G. W. Kiewiet de Jonge is the professor of tropical medicine. The duration of a course is three months. The curriculum comprises: (1) clinical lectures on tropical diseases; (2) tropical hygiene, acclimatisation, water, habitations, conservancy, and climatology; and (3) clinical lectures and demonstrations on bacteriology.

Atlas und Grundriss der gesammten Augenheilkunde. (Atlas with a Short Account of Ophthalmic Diseases.) In Three Volumes. Vol. II., Ophthalmoscopy and Ophthalmoscopic Diagnosis. With 149 Coloured Plates and Seven Uncoloured. By Professor Dr. O. HAAB. Fourth edition. Munich: J. F. Lehmann. 1904. Pp. 82. Price 10*s.*—This volume is one of Messrs. Lehmann's hand atlases of which about 40 have been published and which are marvels of cheapness and excellence. They are of convenient size, printed upon good paper, and supply trustworthy illustrations to works on almost every branch of medical knowledge. Thus three volumes are assigned to gynæcology, two to pathology, three to ophthalmology, and others to diseases of the skin, the mouth, the larynx, the ear, the nervous system, the bones, and to the wider subjects of histology and anatomy. Each volume has an essay prefixed to the plates which contains a brief exposition of the subject to which the volumes are devoted. The plates themselves in the present atlas, although not in the highest style of chromolithography, are not coarse, have been carefully selected, and are consequently representative and form collectively a very useful adjunct to any treatise on the diseases of the eye. They would be more useful to English readers if the introduction and the legends of the plates had been translated into English.

Looking Back.

FROM

THE LANCET, *SATURDAY*, DEC. 24, 1825.

ON THE STRUCTURE AND FUNCTIONS OF THE SPLEEN.

BY SIR A. COOPER.

The following is an abstract[1] of Sir A Cooper's opinions on the structure and use of the spleen; which were delivered by him to the anatomical class a few days since, in a lecture upon that viscus

The most curious part of the structure of the spleen, he observed, was in the veins, and here Sir A. exhibited to the class the spleen of an ox and also of a calf, in which the distribution and commencement of the veins were well seen. He compared the internal structure of these preparations with a dried preparation of a turtle's lung, and said, that the similarity was so great, that the lung had been then placed upon the table, by mistake, for a preparation of the spleen. The cells of the spleen Sir Astley remarked were formed by the splenic vein, into which the blood is poured from the minute capillary branches of the splenic artery. In order to illustrate the elasticity of the membrane, or proper capsule of the spleen, Sir Astley introduced a pipe into the splenic vein and then inflated the spleen; it readily admitted of distension, and its size was much increased, but it was immediately emptied by its own elasticity. By means of an injecting syringe, Sir Astley threw water into the veins of a spleen, upon withdrawing the syringe, and holding the viscus in the hand, it was seen to empty itself and resume its original size. The spleen upon which this experiment was shown appeared very small, but it held twenty-four ounces of fluid. "These were my play-things, gentlemen, (said the worthy Baronet, with a good-natured smile,) when I was ill in the country last summer, and I will tell you the result of these investigations, or rather, the conclusion to which I have arrived respecting the use of the spleen; and it is this—*The spleen is an elastic reservoir and manufactory of venous blood.*"

Sir A. said the blood was conveyed into cells formed by the splenic vein, and was there retained until a supply of dark blood is demanded for the liver, when, by the elasticity of the investing membrane of the spleen, its contents are propelled. The blood in the splenic veins becomes additionally charged with carbon and forms dark blood, which is necessary to the formation of bile. Sir A. remarked, that the difference between the lungs and spleen, was this,—that in the former the blood was deprived of its carbon, whilst in the latter it received an additional quantity. In the spleen of the reptile class, and also in birds, he observed, there were vessels in lieu of cells, and it is only in quadrupeds that the cells can be ascertained.

Sir Astley Cooper next alluded to the hypothesis of Dr. Haighton upon the use of the spleen, which was, that when the stomach was full, it pressed upon the spleen, and thus impeding the circulation through that viscus, the blood was more copiously propelled to the arteries of the stomach, in order that a large quantity of gastric juice might be secreted. Sir A. said if such were the use of the spleen to the stomach, it must also serve for a similar purpose to the pancreas; but he admitted, that it remained for further investigation to prove, what other offices the spleen performed, in addition to that which he conceived to be its principal use.

[1] A portion (**nl**.) is transcribed.

THE LANCET.

LONDON: SATURDAY, DECEMBER 26, 1903.

THE ANNUS MEDICUS 1903.

MEDICINE AND THERAPEUTICS.

Tuberculosis.

THE subject of tuberculosis, more particularly the pulmonary variety, has attracted considerable attention during the past year. The interest taken in the subject by HIS MAJESTY the KING has doubtless given zest to the efforts which are being made to combat the spread of the disease and to perfect its treatment. The steps which have been taken in connexion with the KING EDWARD VII. Sanatorium are familiar to our readers. In THE LANCET of Jan. 3rd we published in our columns the three prize essays and plans. A site was acquired at Lord's Common, Easebourne, about three miles from Midhurst, and the KING laid the foundation-stone on Nov. 3rd. The site is eminently suited for the purpose. The soil is the lower greensand of the lower cretaceous series which is admirable for surface drainage and for residential purposes. The climate of the district is mild and equable and meteorological observations record a plentiful amount of sunlight. The design of the sanatorium has been determined on the best examples of similar institutions in this country, in Germany, and in Switzerland. The primary object of the sanatorium was to provide for sufferers from pulmonary tuberculosis belonging to a class above the very poor—teachers, governesses, and members of other ill-paid professions; also for clerks, shop attendants, and the like, for whom no provision in sickness of this kind exists. But since the sanatorium was intended to be the best which could be constructed the KING did not think it right that those members of the community who could afford to pay for good accommodation and skilful treatment should be entirely excluded from the benefit of the institution; therefore certain rooms will be set aside for patients who can afford higher fees.

The question of the infectivity of pulmonary tuberculosis has again been brought prominently before the medical profession by various observers. Dr. H. TIMBRELL BULSTRODE, in delivering the Milroy lectures of the Royal College of Physicians of London, pointed out that at the present time there may be said to be two schools of thought with regard to the main channels of infection between man and man, the one school maintaining that the greatest danger is to be attributed to the tubercle bacillus contained in the dried sputum, whilst the other considers that there is more potency for harm in the droplets thrown off by a tuberculous patient during coughing. His remarks were characterised by great moderation, and although admitting that in certain circumstances pulmonary tuberculosis is infectious, he held that the communicability of the disease can only be contrasted, not compared, with that of diseases such as small-pox, typhus fever, and whooping-cough.

The address which was delivered by Professor BEHRING at the recent Congress of German Naturalists and Medical Men also contained much valuable information. He expressed the opinion that the communication of pulmonary tuberculosis to adults by contagion has not yet been demonstrated. His fundamental proposition is that as a general rule tuberculosis has its origin in early infancy and that, contrary to the view of Professor KOCH, the vehicle for the conveyance of this latent infection is milk. According to Professor BEHRING, therefore, the cause of active tuberculosis is not so much exposure to infection as the conditions of life which alter the soil of the individual who is already the bearer of the essential seed. Having regard to the divergency of views expressed by eminent observers the report of the Royal Commission on Tuberculosis, which is now pursuing its investigations, will be awaited with considerable interest.

The Harben lectures were made the occasion by Professor F. HUEPPE for the circumstantiation by means of concrete examples of the theoretical views which he propounded in 1893. The adaptation of cell activities to the changing conditions of environment and the variation of bacterial species in accordance with the circumstances of time and place were illustrated by examples of susceptibility to, and immunity from, tuberculosis and other diseases and by the morphological and metabolic variations of the tubercle bacillus itself in its varying conditions of parasitism in different hosts.

Some interesting observations on tuberculosis of the nervous system were made by Dr. E. F. TREVELYAN in delivering the Bradshaw lecture before the Royal College of Physicians of London. He drew attention to the forms which the tuberculous infection may assume in the nervous system, to the mode of infection of the brain and meninges, to the information which may be obtained by examination of the spinal fluid obtained by puncture, and to the prognosis of tuberculous affections of the nervous system.

Dr. A. MARMOREK, the late head of the staff of the Pasteur Institute at Paris, has announced that he considers that he has been able to isolate the true toxin from cultures of the tubercle bacillus. This toxin he injected into horses and finally obtained a serum containing either the attenuated toxin or an autotoxin secreted by the horse. He tried the toxins on patients suffering from tuberculosis but the cases were too few to allow any definite opinion to be formed as to the therapeutic value of this serum.

Small-pox.

In THE LANCET of August 8th (p. 377) we published a valuable paper by Dr. J. E SANDILANDS on the vaccination statistics of the Metropolitan Asylums Board in connexion with the recent exceptional prevalence of small-pox in London. Having for a considerable time occupied the position of assistant medical officer in actual attendance on patients in the hospital ships at Dartford, Dr. SANDILANDS writes with authority concerning the behaviour of small-pox, both in vaccinated and in unvaccinated persons, and he has utilised his opportunities for observation in a way that should carry conviction to unprejudiced minds as to the paramount power of vaccination as a prophylactic. The figures in the Asylums Board reports emphasise the same lesson that has been taught by previous small-pox epidemics, which is that the incidence of attack is overwhelmingly greater during childhood than in later years, the mortality at the earlier ages in the recent epidemic having averaged from 20 to 50 per cent. of the cases treated.

The difficulty which small-pox occasionally presents in the matter of diagnosis was well illustrated by an epidemic which occurred in Trinidad. So mild was the type that the disease was considered by the Trinidad Medical Board not to be small-pox but was regarded as "epidemic varioloid varicella." Subsequent investigation by Mr. J. F. E. BRIDGER, however, went far to prove that the malady was a mild form of small-pox.

Typhoid Fever.

The paper communicated to the Royal Society by Dr. ALLAN MACFADYEN marked a decided advance in our knowledge of the cell physiology of the bacillus typhi abdominalis, whilst the full confirmation of the preliminary

results obtained by him promises a prophylactic and therapeutic agent in the treatment of typhoid fever which may replace the antityphoid "vaccines" and sera at present in use. Dr. MACFADYEN, writing in conjunction with Professor DEWAR, showed that many species of bacteria could be exposed to the temperature of liquid air for considerable periods of time without destruction or, indeed, loss of vitality. At this temperature, too, bacterial cells are frozen into hard fragile masses which can be successfully triturated *per se* at a temperature which precludes the possibility of autolytic changes and the cell plasma can be subsequently obtained from the disintegrated mass. Proceeding onwards in the investigation the typhoid cell juice was employed in the immunisation of animals, with the result that animals thus treated were found to yield an "anti" serum which was at once actively bactericidal and also antitoxic. Animals inoculated first with the antiserum and subsequently either with lethal doses of living typhoid bacilli or of toxic cell plasma were completely protected. Again, animals were inoculated with lethal doses of living bacilli or of toxin and some time later were injected with curative doses of the antiserum. These animals recovered whilst death resulted in the control animals which were similarly inoculated but were not treated with the serum.

Plague.

An important report was issued during the year by Dr. W. J. R. SIMPSON on the Causes and Continuance of Plague in Hong-Kong. After a consideration of the several factors upon which the spread of the disease depends Dr. SIMPSON recommended to the Government the following measures: (1) notification of plague from China by weekly bulletins from consuls; (2) the inclusion of a special plague organisation in the sanitary administration; (3) a reorganisation of the sanitary department to include medical inspection of shipping and junks and the appointment of a sanitary commissioner for the colony; and (4) the amendment and consideration of the public health ordinances.

We have during the year chronicled regularly in our columns, through the medium of our foreign correspondents, the prevalence and spread of plague in different parts of the world, and a fuller consideration of the subject will be found in this article under the heading Public Health.

Leprosy.

Mr. JONATHAN HUTCHINSON has for many years been the chief upholder of the theory that leprosy is associated with the ingestion of putrid fish. In order to obtain further evidence he made journeys to South Africa and to India and on his return from the latter country delivered an address at the Medical Graduates' College and Polyclinic in which he maintained the views which he has advocated so long. He considers that by his visit to India he has overcome many of the objections which had been raised against his theory. In one particular, however, he has modified it: he acknowledges that the disease may be transmitted by "commensalism"—that is to say, by food which has become infected by the leper's hand.

Sleeping Sickness.

Owing to the energetic steps adopted by the Royal Society in despatching commissioners to Uganda to investigate the causes and means of transmission of sleeping sickness much has been learned in reference to the etiology of this disease. Readers of THE LANCET have been kept fully informed of all the steps in the most interesting pathological story of the year. Dr. A. CASTELLANI was the first observer who described trypanosomes as occurring in the cerebro-spinal fluid of patients suffering from this disease. The commission sent out by the Royal Society consisted of Lieutenant-Colonel D. BRUCE, R.A.M.C., Dr. D. N. NABARRO, and Captain E. D. W. GREIG, I.M.S. The conclusions of their last report are as follow: 1. That sleeping sickness is caused by the entrance into the blood and cerebro-spinal fluid of a species of trypanosome. 2. That this species is probably that discovered by FORDE, and described by DUTTON from the West Coast of Africa, and called by him "trypanosoma Gambiense." 3. That the so-called cases of trypanosoma fever described from the West Coast of Africa may be, and probably are, cases of sleeping sickness in the earliest stages. 4. That monkeys are susceptible to sleeping sickness and show the same symptoms, the disease running the same course, whether the trypanosomes injected are derived from cases of so-called trypanosoma fever or from the cerebro-spinal fluid of cases of sleeping sickness. 5. That dogs and rats are partially susceptible but that guinea-pigs, donkeys, oxen, goats, and sheep up to the present have shown themselves absolutely refractory. 6. That the trypanosomes are transmitted from the sick to the healthy by a species of tsetse fly (glossina palpalis) and by it alone. 7. That the distribution of sleeping sickness and that of the glossina palpalis correspond. 8. That sleeping sickness is, in short, a *human* tsetse-fly disease.

Lead Poisoning.

During the year a report was issued by the medical department of the Local Government Board which gives details of a prolonged research undertaken by Dr. A. C. HOUSTON on the power which certain moorland waters possess of dissolving lead. The object of the research was to determine the causes of the acquisition by water of this "plumbo-solvent" ability and to ascertain the extent to which the large moorland gathering grounds of Lancashire and Yorkshire are liable to furnish water capable of exercising the objectionable property of acting upon domestic lead service pipes. The results obtained by the research are, briefly, that a water which is capable of dissolving lead is acid and its acidity is ultimately to be referred to drainage from peaty soil; that the formation of acid takes place within the peat itself and results from the action of specific bacteria which when isolated possess the power of rendering by their growth a sterile neutral decoction made solely from peat both acid and possessed of "plumbo-solvency." Fortunately there seems to be no difficulty in safeguarding a population supplied wholly or partly from moorland sources from risk of receiving water capable of dissolving lead.

Cancer.

Ever since the KING publicly expressed his desire that the deplorable increase of cancer prevailing throughout his dominions should receive the earnest attention of the medical profession with a view, if possible, to the discovery of means for its prevention, the subject has engaged a large share of public notice. During the past year a considerable amount of research work has been accomplished but the results are as yet too uncertain to bear the weight of authority.

In a paper published in the first volume of the *Archives of the Middlesex Hospital* by Mr. C. R. C. LYSTER, the medical officer in charge of the electrical department of that hospital, information is given which seems to promise hope for the future. In speaking of the effect which the x rays have upon cancerous growths he says that a very large number of cases have been relieved of pain and that in a certain number the growth has undergone a definite retrogression. Of all the new growths the rodent ulcers are by far the most satisfactory to treat. The cases that have been under treatment have varied from those exhibiting small recent spots to the most extensive and old-standing lesions. They have all shown a great tendency to improve; the more recent ulcers have quickly healed, leaving a healthy scar and there had been no recurrence up to the time of publishing the report. In cases of rodent ulcers of long standing and with considerable loss of tissue the tendency to heal

has been remarkable but after a time recurrence is not unusual and this seems to be more difficult to deal with than is the original ulcer. Of other growths experience so far seems to show that the best results are obtained in cases of mammary carcinoma, especially in the recurrent forms. In a favourable instance the main effects of treatment are relief of pain, healing of ulceration, and a shrinking or disappearance of the growth. Sarcomata are not so amenable to treatment as are carcinomata. The cases which are apparently the least benefited are the epitheliomata, or, as they are now called, the squamous carcinomata, and this is more especially the case after secondary infection of the lymphatic glands has occurred. Mr. LASTER very wisely uses the word "retrogression" in preference to the word "cure," for, as he says, in the present state of knowledge the utmost that can be said is that the disease is "arrested." With regard to the use of high-frequency currents in malignant disease, it is believed that the good results claimed for this therapeutic measure are due more to the tonic action of the rays than to any direct action on the growth itself. Cases of rodent ulcer and epithelioma were submitted to the action of radium and also to pitch-blende, the application of the latter substance being of particular interest as it is far more easy to obtain than radium; the results of the treatment have not yet been published.

In THE LANCET of Nov. 14th, p. 1374, we published a full report of the address on Dr. OTTO SCHMIDT'S Specific Treatment of Cancer which was delivered by Dr. H. JOSSE JOHNSON before the Abernethian Society of St. Bartholomew's Hospital. Dr. SCHMIDT claims to have isolated the parasite of cancer in pure culture and also to have discovered a new serum for the treatment of the disease. As we stated at the time, until fuller information is afforded we are not able to express any definite opinion on the subject.

A very suggestive paper on the resemblances exhibited between the cells of malignant growths in man and those of normal reproductive tissue was read before the Royal Society on Dec. 10th by Professor J. B. FARMER, F.R.S., Mr. J. E. S. MOORE, F.L.S., and Mr. C. E. WALKER. The paper, an exhaustive abstract of which is published in this issue of THE LANCET, was the result of joint work, each observer approaching the problems from an independent standpoint. The possible bearings of this important piece of original research cannot yet be estimated, but the Cancer Research Committee has the matter under its notice.

The annual report of the Cancer Research Committee for the year shows good work to have been done. We published in our columns a very interesting paper on the quantitative and qualitative relations of toxin and antitoxin by Dr. E. F. BASHFORD, general superintendent of the Cancer Research Fund, which sufficiently showed that the committee has in its executive officer a sound and able pathologist.

The Influence of Brain Power on History.

Sir NORMAN LOCKYER, in delivering the Presidential Address before the British Association for the Advancement of Science at Southport, pointed out that the nation at present suffers from the absence of a powerful, continuous, reasoned expression of scientific opinion and urged that the English should be armed as other nations are with efficient universities and facilities for research to "uphold the flag of Britain in the domain of learning and discovery." He also urged that in addition to our many existing councils another is required to secure that the benefits which a proper coördination of scientific effort in the nation's interest can bring shall no longer be neglected.

Lectures of the Year.

We published in full in THE LANCET as usual the official lectures delivered before the Royal College of Physicians of London. The Lumleian lectures were delivered by Dr. T. R. GLYNN who chose as his subject, Infective Endocarditis mainly in its Clinical Aspects. He dealt with the matter in a very comprehensive manner, laying some stress on its etiology. He pointed out that the disease is commoner in males than in females; that it is prone to attack the debilitated, the intemperate, and the cachectic; that it follows anæmia, parturition, Bright's disease, pneumonia, and rheumatism; and that it is very frequently associated with antecedent sclerotic changes in the endocardium. In the great majority of his cases the mode of entrance of the pathogenic organisms could not be ascertained. Dr. A. S. F. GRUNBAUM delivered the Goulstonian lectures, selecting as his theme, Theories of Immunity and their Clinical Application. He gave an account of what is known concerning antitoxins, hæmolysins, and cytotoxins, and drew attention to actions, other than antitoxic and bactericidal, of curative sera. The Croonian lectures were in the hands of Dr. C. E. BEEVOR, the subject being Muscular Movements and their Representation in the Central Nervous System. This subject is naturally an involved one but the lecturer treated it in a most able and complete manner. As already stated, the Milroy lectures were given by Dr. BULSTRODE on the Causes, Prevalence, and Control of Pulmonary Tuberculosis and the Bradshaw lecture by Dr. TREVELYAN on Some Observations on Tuberculosis of the Nervous System.

SURGERY.

Aseptic Surgery.

The tendency to the replacement of antiseptic by aseptic surgery still continues but in many instances zeal has far outstripped knowledge and many without an adequate bacteriological training have adopted so called "aseptic" methods, with the result that primary union occurs more rarely than should be the case. A judicious blending of the two methods is the most useful, practically sterilisation by heat of the instruments and dressings replacing the former sterilisation by antiseptics and as far as possible the contact of antiseptics with the wound being avoided. As Mr. W. WATSON CHEYNE has pointed out, there appears to be at present a disposition to discard buried sutures as it seems to be thought that it is very difficult to guarantee the aseptic character of a silk suture, though this is rather an indictment of the mode in which the aseptic method is carried out. Mr. A. WEBB JONES urged that it was perfectly possible to employ the aseptic method even in such a place as Wady Halfa, where he had been performing operations for 15 months, but he agreed that in circumstances such as are met with there dressings permeated with antiseptics would have an advantage over those merely sterilised.

Film Dressing for Wounds.

Mr. PEYTON T. B. BEALE has devised a new form of film dressing. It consists of thin films of a cellulose derivative, called velvril; these are transparent, tough, elastic, and impermeable. When the operation has been completed a piece of sterilised velvril is cut, large enough to cover the wound and one inch beyond; this is placed over the wound after the wound and the skin around it have been painted with a solution of velvril in acetone. A pad of wool and a bandage complete the dressing. The transparent film enables the wound to be examined from time to time and if left to itself it peels off in 10 or 12 days, though it can readily be removed earlier if necessary. This dressing promises to be useful.

Operation for Perforation in Enteric Fever.

As in other recent years, the surgery of the abdomen has received more attention than perhaps rightly belongs to it,

but at present this branch of surgery is advancing rapidly and therefore attracts much notice. The number of instances in which the abdomen has been opened with success for perforation in enteric fever is steadily increasing and several other cases of this operation have been recorded during the year. Mr. A. A. BOWLBY, who already had had a successful case of this nature, has recorded a second in which also the patient recovered. As Mr. BOWLBY pointed out, in both of his cases the perforation occurred late in the disease when the fever was practically over and the general condition of the patient was fairly good, but in most cases perforation, should it take place, occurs earlier and the prognosis is therefore graver. Dr. H. W. G. MACKENZIE has recorded two cases of recovery after operation for enteric perforation; they were under his care and that of Mr. W. H. BATTLE.

Intussusception.

It is becoming generally recognised that acute intussusception in nearly all cases requires immediate operation. Should it be limited to the large bowel it may be possible to remove the invagination by inflation or injection and this treatment certainly deserves a trial, but if the bowel be involved above the ileo-cæcal valve a laparotomy is imperatively necessary. Mr. HUGH M. RIGBY has recorded the notes of seven cases of acute intussusception which were admitted within a period of nine days into the surgical wards of the London Hospital. The period of nine days started on Dec. 26th and it is not unlikely that the injudicious and excessive feeding associated with Christmas may be responsible in great part at least for the occurrence of the condition. One case was moribund when seen and was not submitted to surgical treatment, dying shortly after admission. Of the remaining six cases one required an enterectomy and died but the other five cases recovered after laparotomy.

Dr. LLEWELLYN A. MORGAN has published the notes of a case of acute ileo-colic intussusception in a child one year and eight months old. Laparotomy was performed but death ensued within 40 hours of the onset. A point of interest was discovered post mortem, some tuberculous ulceration of the bowel being found in the intussuscepted portion. Dr. J. E. WEBB has recorded an interesting case of intussusception on which he operated with success although the operation had to be done in a small cottage and with the light only of a lamp and a candle. The successful result in this case is to be attributed to the early correct diagnosis and to the energy and skill owing to which the operation was performed within six hours of the onset of the symptoms, although 15 miles had to be driven in the severest weather before the proceedings could be carried out.

Retroperitoneal Hernia.

Herniæ into the peritoneal fossæ have been described from time to time, but the profuse nomenclature has done something to retard the general recognition of the chief varieties of these "retroperitoneal" herniæ. Dr. C. T. ANDREW discovered in a subject in a dissecting room a hernia in the fossa duodeno-jejunalis, the contents comprising the whole of the small intestine with the exception of the lower six inches of the ileum. There was no evidence of any strangulation. Mr. B. G. A. MOYNIHAN, from the description given, was inclined to think that the hernia was in the fossa of Landzest, forming what is called a "left duodenal hernia."

Dr. PRIESTLEY LEECH has described a case of left duodenal hernia which had become strangulated. The patient was a man, 26 years of age, and on the night after a hearty supper he began to vomit and had complete obstipation. There was a history of two similar but milder attacks. Laparotomy was performed and the retroperitoneal hernia was discovered. About three feet of bowel were readily withdrawn from the pouch and the abdomen was closed. The patient recovered.

Volvulus of the Sigmoid Flexure.

Mr. H. W. ALLINGHAM and Dr. E. CHITTENDEN BRIDGES have recorded a case of chronic volvulus of the sigmoid flexure in a man, 54 years of age. He had been subject for 30 years to attacks of constipation recurring at intervals of from four to six weeks, lasting five or six days, and accompanied by much pain in the lower half of the abdomen. The attack commenced with abdominal pain and marked constipation though flatus passed; vomiting had occurred. Castor oil produced several motions and much pain. The symptoms gradually grew worse and an operation was performed. When the abdomen was opened the sigmoid flexure was found much distended and attached by many adhesions to the mesocolon so that the sigmoid was twisted on itself. The adhesions were broken down, the volvulus was reduced, and the sigmoid flexure was attached by two sutures to the abdominal wall to prevent a recurrence of the volvulus. The patient recovered and no return of the symptoms occurred although when the account was written 12 months had elapsed since the operation.

Mr. G. J. ARNOLD has reported a case of some interest. A medical man, 63 years of age, had had two attacks of acute intestinal obstruction arising from volvulus of the sigmoid flexure and on each occasion a laparotomy had been performed and the volvulus had been reduced, and at the second operation some measures were said to have been taken to prevent a recurrence. A third attack of abdominal pain occurred with nausea but no vomiting. The patient himself wished for an immediate operation and Mr. ARNOLD opened the abdomen and found in addition to a few adhesions along the line of the former incision an enormously dilated descending colon. This distension was due to a constriction of the sigmoid flexure by a piece of small intestine adherent to the abdominal wall and it was found that several feet of small intestine had passed through the mesosigmoid. Recovery was rapid and complete.

Intestinal Obstruction.

Mr. T. CRISP ENGLISH has recorded three cases of acute intestinal obstruction which were in St. George's Hospital under the care of Mr. CLINTON T. DENT. In one case the cause was a thick band of peritoneal adhesion which produced a sharp kink of a piece of small intestine; recovery ensued. In the second case numerous adhesions in the left iliac fossa had bound down the bowel. The division of these relieved the obstruction but the patient did not rally from the operation. In the third case an omental band in the right iliac fossa constricted a coil of intestine. The chief point advanced by Mr. ENGLISH is the value of irrigating the intestines during the operation with normal saline solution at a temperature of 108° F. This, he urges, diminishes the distension of the intestines, lessens shock, prevents subsequent adhesions, and, by increasing the secretion from the kidneys, assists in the elimination of toxic products. He also insists on the importance of systematically washing out the stomach in cases of intestinal obstruction both before and after the operation. Both these procedures are of great value and deserve more extended employment.

Surgery of the Gall-bladder.

The surgery of the gall-bladder has now reached a position of great importance, for it is recognised that cholelithiasis, apart from its own immediate evils, is frequently the precursor of malignant disease of the gall-bladder. Dr. C. A. S. RIDOUT records a case under the care of Dr. G. STOKES HATTON in which 449 gall-stones were removed from the gall-bladder. They averaged about the size of a large pea. The gall-bladder was drained and the patient's after-progress was satisfactory.

Dr. JOHN H. GIBBON has published a case of gangrenous cholecystitis. The patient was a woman, aged 52 years, with a history of indigestion, nausea, and vomiting. Her attack began with pain in the left hypochondrium and vomiting; her temperature was 102°. When the abdomen was

opened three days after the inception of the illness the gall-bladder was found to be distended and its fundus of a dark-purple colour. The gall-bladder was incised and the wall was found to be gangrenous in its whole thickness. Cholecystectomy was performed and an uneventful recovery followed.

Mr. FREDERIC S. EVE has published three cases of cholecystectomy. In the first case the gall-bladder contained purulent fluid and was at first drained. Later, to cure the biliary fistula which remained, the gall-bladder was excised. In the second case the gall-bladder was distended and contained many stones but the fluid was sterile; cholecystectomy was performed. In the third case there was a little pus in the gall-bladder and the mucous membrane was ulcerated. The gall-bladder was removed. In all three cases rapid recovery took place. Mr. EVE considers that the gall-bladder is a structure which can be dispensed with without inconvenience and therefore he thinks that in the future cholecystectomy will be more often performed instead of drainage in cases in which the gall-bladder is thickened and contracted.

Dr. H. A. LEDIARD has described a case of perforation of the gall-bladder occurring in a woman, aged 47 years. Many calculi were present and were removed and then the opening into the gall-bladder was closed by invaginating the edges and stitching with Lembert sutures, as was suggested by Mr. G. H. MAKINS. The operation was completely successful.

Mr. LEONARD A. BIDWELL has published notes of four cases of empyema of the gall-bladder, in all of which he employed drainage. Of the four cases three patients recovered and one died.

Hypertrophy of the Prostate.

The treatment of hypertrophy of the prostate when it leads to difficulty of micturition has excited much attention and given rise to no small amount of discussion. On the whole it may be said that most of those surgeons who have devoted special attention to this department prefer to enucleate the prostate and the results which have up to the present been obtained fully justify this opinion. Mr. P. J. FREYER'S statistics give a total mortality of less than 10 per cent., even when all deaths after the operation are included, though some of the fatal cases might not unreasonably be removed from the deaths. Dr. W. PRIOR PURVIS has reported a case in which he enucleated a mass from the prostate weighing six and a half ounces. The best treatment for this condition was discussed at the Swansea meeting of the British Medical Association and it was also a subject of discussion at a meeting of the Harveian Society where the debate was opened by a paper by Mr. C. W. MANSELL MOULLIN who entered somewhat fully into the whole question. There is no doubt that the more modern methods of treatment of hypertrophied prostate are superseding habitual catheterism which is full of septic dangers for the patient with enlarged prostate. The temporary favour which was accorded to vasectomy and castration for prostatic hypertrophy has been followed by almost complete neglect.

Aneurysm.

Traumatic aneurysms of large arteries are not common but two cases of this condition have been recorded in THE LANCET during the year. Dr. ALAN H. MUIR narrates a case under the care of Mr. W. F. BROOK of traumatic aneurysm of the gluteal artery resulting from a fall on the buttock. The internal iliac artery was compressed digitally through an opening made in the abdominal wall. Then the sac of the gluteal aneurysm was opened by an incision six inches long in the line of the gluteal artery, the blood clot was turned out, and the artery was tied. The fissured fracture of the hip-bone which had wounded the vessel was seen. Complete recovery followed.

Dr. J. CROPPER has described a case of traumatic femoral aneurysm which was under his care. It arose from a punctured wound inflicted four months before. The vessel was tied above and below the sac which was excised. The vein was wounded during the operation and the hæmorrhage was controlled by firm packing. The patient soon recovered.

The introduction of wire into the interior of an aneurysm is now rarely employed. Mr. D'ARCY POWER and Mr. G. H. COLT have published a case in which this was done. The aneurysm was situated on the abdominal aorta and was exposed by an incision over it and 80 inches of silver wire were introduced into the aneurysm and the opening was closed by a few Lembert sutures. The patient died 50 hours after the operation. At the necropsy a loop of wire was found projecting into the aorta. The instrument devised for the introduction of the wire is ingenious and is likely to be used in future whenever this operation seems to be indicated.

OBSTETRICS AND GYNÆCOLOGY.

The Anatomy of the Pregnant Uterus.

During the past year two valuable contributions have been made to our knowledge of the anatomy of the pregnant uterus. J. CLARENCE WEBSTER has published a paper on the cadaver of a woman who died in the sixth month of pregnancy which he studied by means of frozen sections. The specimen is principally of interest in showing the extent to which the uterus may be displaced upwards by the distended bladder. The highest point of the fundus uteri is opposite the first lumbar vertebra, while at full term the normal level of the fundus is the disc between the first and second lumbar vertebræ.

The second case, published jointly by PINARD, SEGOND, and COUVELAIRE, is that of a patient delivered by Cæsarean section at full term whose uterus was bound down by peritoneal adhesions on its posterior and left lateral surface to the posterior wall of the pelvis and of the abdomen and to the intestines. After the delivery of the child the uterus was removed by hysterectomy. This interesting specimen demonstrates the fact that the fixation by adhesions of practically the whole of the posterior surface of the uterus is not incompatible with the development of pregnancy to full term. As a result of the presence of the adhesions the anterior wall of the uterus had developed to a very marked extent while the posterior wall remained almost entirely undeveloped. At the same time the lower uterine segment had undergone marked over-distension over an area on the left side corresponding to the position of the fœtal head. The case affords an interesting anatomical proof of the manner in which the so-called incomplete retroflexion described by ROBERT BARNES in cases of incarceration of the retroverted gravid uterus may occur.

The Nutrition of the Mother and its Relation to the Size of the Child.

The view of PROCHOWNICK that it is possible to influence the size of the child by modification of the mother's diet is confirmed to a considerable extent by the observations of NOEL PATON in the case of guinea-pigs. By regulating the food of the mothers he was able to show that the weight of young per gramme of mother could be definitely altered. The average weight per litter in the underfed animals was no less than 28 per cent. below the weight per litter in normal well-fed animals. Physiologically the point of interest in these experiments is the demonstration of the limitations in the extent to which the tissues of the mother can be utilised for the construction of the embryo.

Ectopic Gestation.

Extra-uterine gestation has been the subject of numerous publications during the past year. Our knowledge of the changes that occur in the wall of the pregnant tube and

also of the manner in which rupture of the tube is produced is much more complete than it was. The anatomy of the pregnant tube was fully considered in a paper published by J. R. ANDREWS, and the whole question formed one of the subjects of discussion at the meeting of the German Gynæcological Society in June of this year.

It is becoming more and more evident that the ovum in cases of tubal pregnancy is imbedded beneath the mucous membrane of the tube and is not simply attached to its surface. The free pole of the ovum, that is to say, the part projecting towards the lumen of the tube, is covered by a true decidua reflexa, or by organised clot, or by some of the folds of the mucous membrane representing such a decidua. The development of the tubal decidua is a constant condition, although the amount of its development varies considerably in different cases. In cases of tubal rupture the wall of the tube gives way, while in cases of early tubal abortion the covering of the free pole of the ovum becomes torn through. The part played by the epithelium of the villi in causing the destruction of the muscular tissue of the wall of the tube is not yet completely determined but no doubt it plays an important part. The occurrence of a primary abdominal gestation cannot yet be said to have been demonstrated beyond doubt but the existence of ovarian gestation is now accepted by all observers. With regard to the question of treatment in accordance with the conservative tendency of recent gynæcological surgery, it is becoming more and more the custom with many obstetricians to adopt expectant treatment in the case of a limited peritubal hæmatocele due to tubal abortion and to operate in practically all other cases of this kind, while the abdominal route is more generally applicable and more often employed than the vaginal.

A work of much interest has been published by F. VON WINCKEL on the deformities of the fœtus in cases of ectopic gestation. He draws the conclusion that maldevelopments of the fœtus are much more common than is usually believed and occur in some 50 per cent. of the cases. He thinks that the contractions of the fœtal sac, which are often well marked, play an important part in producing these deformities and diseases of the ectopically developed fœtus. It is interesting to notice that such deformities often disappear spontaneously if the fœtus continues to live.

Deciduoma Malignum.

Two of the meetings of the Obstetrical Society of London were devoted to a discussion upon this most important disease. The subject was introduced by TEACHER of Glasgow who in an exhaustive and interesting paper dealt very fully with the whole matter. In connexion with the paper a large number of pathological specimens and microscopical sections were shown. The most interesting problem yet unsolved in connexion with this disease is its relationship to the tumours of apparently the same nature met with in the male.

TEACHER came to the following conclusions:—1. That the so-called deciduoma malignum is a tumour arising in connexion with a pregnancy and originating from the epithelium of the chorionic villi (or its forerunner, the trophoblast), which is of fœtal ectoblastic origin. The malignant hydatidiform moles may be regarded as a variety of chorion-epithelioma. 2. That the chorion-epitheliomata and malignant hydatidiform moles form a quite characteristic group of tumours clinically and pathologically and that they should be classified neither as sarcomata nor as carcinomata but as a distinct class *sui generis*. The most appropriate name is chorion-epithelioma malignum. 3. That, in addition to the common tumours developing from a pregnancy, there are tumours containing precisely similar structures which are not connected with a pregnancy and which may occur in other parts of the body than the uterus and in either sex. The most probable explanation of these is that they are teratomata originating from some structure which has the morphological value of an included matured and fertilised ovum, and the chorion-epitheliomatous tissues represent the actual trophoblast (chorionic epithelium) of the included ovum.

Tuberculous Disease of the Genital Tract.

The importance of tuberculosis in the etiology of diseases of the genital tract is becoming more and more evident. This subject was discussed at the International Congress of Obstetrics at Rome last year and was also considered at the meeting of the British Medical Association at Swansea this summer. Papers were read and specimens were demonstrated by TARGETT, KYNOCH, and ARNOLD LEA.

In the diagnosis of the condition TARGETT laid stress upon the freedom from pain, the frequency of dysmenorrhœa, and the absence of repeated attacks of peritonitis such as patients with the more common forms of pyosalpinx usually suffer from. The old view that amenorrhœa is usually present can no longer be held, as further experience has shown that the menstrual function is often not at all disturbed. The microscopical examination of the scrapings from the uterus is of little value in making a diagnosis as tuberculous endometritis is of very rare occurrence. As TARGETT pointed out, the tuberculous pyosalpinx has characters which often enable it to be recognised—viz., the persistence of the fimbriated extremity, the absence of adhesions on the serous surface, and the comparative thinness of the sac wall. Its contents are usually sterile and the uterine end of the tube alone exhibits the characteristic structure of tuberculous salpingitis.

X Rays and Violet Light Rays in the Treatment of Cancer.

Evidence is accumulating as to the value of these light rays in the treatment of rodent ulcers and of true carcinomata. A considerable number of cases have now been recorded by CLEAVES, GRUBBE, and others in which very marked benefit apparently has followed the use of the violet and x rays in cases of inoperable cancer of the uterus. It is to be hoped that we may soon have before us the results of a sufficient number of cases to enable us to form a definite conclusion as to the value of this method of treatment. The possible effects of the emanations from radium upon similar cases is a problem for the future to decide.

Pregnancy complicated with Uterine Fibroids.

A discussion was opened by AMAND ROUTH at the meeting of the British Medical Association on the Management of Pregnancy complicated with Uterine Fibroids. He thought that expectant treatment was indicated in all cases unless there were urgent symptoms. Owing to spontaneous elevation of pelvic fibroids during the last few weeks or days of pregnancy threatened obstruction to labour did not, as a rule, persist. Sepsis with secondary infection of the fibroid was a serious danger in the puerperium. Induction of abortion should be abandoned. If urgent pressure symptoms supervened myomectomy was the ideal operation for subserous growths, failing that hysterectomy. After the child was viable reposition might be tried, leaving radical measures for a later date. A cervical fibroid might be enucleated from the vagina as an alternative to panhysterectomy. In all other cases of fibroids obstructing labour as a first step the child must be delivered by Cæsarean section followed by myomectomy, supravaginal hysterectomy with retroperitoneal treatment of the stump, or panhysterectomy. If during childbed fibroids became infected a prompt extirpation of the uterus might save the patient's life.

The Treatment of Prolapse of the Uterus.

An important discussion upon this very common condition was held at the Congress of the German Gynæcological Society in Würzburg in June. It cannot be said that our

knowledge was much increased by the contributions read. The difference of opinion was most marked in regard to the etiology of prolapse of the uterus. Is it to be regarded as a purely local affection or is it merely the result of general debility of the patient, and can prophylactic measures directed towards the correction of such errors in the general health prevent its occurrence? MARTIN thought that they could and laid much stress upon the importance of the patient's general condition, of physiological involution in childbed and at the climacteric, and of the disturbed nutrition that occurred in severe diseases, conditions in all of which there was extensive wasting of connective tissues and in which prophylactic measures were likely to be of much assistance. With the improvement of the general condition the local affection would improve also and bad cases would become much less common. Some of the other speakers dissented from this view and held that prolapse of the uterus was entirely a local condition and had no relationship at all to the general health. The infrequency of this distressing complaint amongst better-class patients seems to show that the importance of prophylaxis can hardly be overestimated and that the condition can be, and is, preventable except in a small number of cases in which infantilism, congenital backward displacements of the uterus, and imperfect development of the perineum play an important part in the production of the displacement. There was a general consensus of opinion that one or other of the forms of fixation of the uterus was indicated when operative treatment was required but that supplementary vaginal operations were always necessary. The results as to cure from all the various operations were about the same, while total extirpation of the uterus gave no better results than any other operation.

Obituary.

The list of deaths amongst obstetric physicians has been exceptionally heavy this year and includes such well-known names as MAX SÄNGER, HENRI VARNIER, GAILLARD THOMAS, WILLIAM PLAYFAIR, and JOSEPH GRIFFITHS SWAYNE.

OPHTHALMOLOGY.

The numerous points of contact that ophthalmology has with all other departments of medicine insure a full attendance at the meetings of the various ophthalmological societies in this and other countries and occasion the exhibition of numerous cases and the reading of many papers that awake interest, give rise to discussion, and lead to fuller and more exact knowledge of the different forms of disease that they illustrate. But this wealth and diversity of material render it difficult in a brief record of progress to do more than to allude to the chief events of the year, to indicate the principal topics that have attracted attention, and to mention a few of the more striking cases that have been seen and described. The Ophthalmological Society of the United Kingdom has elected as its president Mr. JOHN TWEEDY who also occupies the high position of President of the Royal College of Surgeons of England, an unprecedented combination of honours.

Congresses.

The meeting of the Egyptian Medical Congress was held at the close of last year at Cairo and the vexed questions of the nature, origin, and treatment of trachoma, which is there an endemic disease, were dealt with. It is said that partly as a result of this congress Sir ERNEST CASSEL was induced to place the sum of £200,000 at the disposal of the Khedive to institute a peripatetic ophthalmic dispensary with the object of relieving the appalling amount of remediable disease in Egypt. It is to be hoped that some permanent good may result from this kind gift if only by showing the people how much benefit may be effected by cleanliness and the adoption of very simple antiseptic measures. The President of the Ophthalmological Section of the British Medical Association at Swansea was Mr. HENRY E. JULER. Interesting papers were read by Mr. E. NETTLESHIP on Ocular Changes in Renal Disease; by Mr. G. HARTRIDGE and by Mr. CLAUD A. WORTH on Squint; and one on the Mechanism of Accommodation in Man by Dr. K. A. GROSSMANN. A new department of ophthalmology has been founded in the University of Oxford and Mr. ROBERT W. DOYNE has been elected as first reader. The post, which Mr. DOYNE is thoroughly qualified to fill, will, in conjunction with the ophthalmic hospital, afford many practitioners in and around Oxford the opportunity of keeping up, and extending, their knowledge of ophthalmic disease.

Uniformity of Notation.

The multiplication of journals devoted to ophthalmology, in which isolated cases are often reported in great detail, has led several observers to urge the necessity for greater uniformity being practised in such reports. Thus Dr. KNAPP of New York accepts and recommends the notation of the meridians of the eye originally proposed by Dr. HARLAN, in which the numbering commences at the nasal end of the horizontal meridian, runs to 90°, which is the vertical meridian, and then outwards to the opposite or temporal end of the horizontal meridian which is 180°. The general adoption of this notation by refractionists would prevent much confusion. Mr. LUCIEN HOWE points out that more uniformity is required in the numbering and in the use of prisms and suggests not only that the prisms should be ground with greater accuracy than is practised at present, but that the application of prisms to test the power of adduction and abduction, or the dynamic conditions of the eyes, should be conducted in the same manner, and, lastly, that the terms "latent" convergence and divergence should be replaced by those of esophoria, exophoria, and the like now generally used in America. Dr. CHARLES H WILLIAMS insists on the great importance for the safety of the public of more uniformity in the examination of the vision, colour sense, and hearing of all those employed on railways. A very interesting series of recommendations of the Section on Ophthalmology of the American Medical Association has been published and it would be well if all railway officials in the United Kingdom were examined on the lines that are laid down in this report, a condensed account of which will be found in the recently published Transactions of the American Ophthalmological Society for 1902.

Roentgen Rays.

The use of the Roentgen or x rays has become common in the treatment of various diseases of the eyes and the adjoining region, but especially in cases of epithelioma. Some very striking instances of the improvement effected in this affection have been placed on record (with illustrations) by Dr. W. SWEET of Philadelphia. The loss of the cilia and of the hairs of the eyebrows that has been observed in more than one instance suggests the advisability of protecting all but the diseased part with sheets of lead when this method of treatment is practised. The tube employed by Dr. SWEET was of low vacuum and was placed from six to ten inches distant from the part; the exposures lasted from five to ten minutes and the number of sittings varied from ten to 30 or more.

Affections of the Cornea.

The treatment of conical cornea has been the subject of discussion. Mr. A. STANFORD MORTON adopts the method proposed originally by Mr. HIGGENS of excising an elliptical portion from the apex of the cone and has had many successful cases. Others, as Dr. J. TATHAM THOMPSON and Dr. KARL GROSSMANN, prefer the application of the actual cautery to the apex, a plan originally proposed by Dr. ANDREWS

and subsequently recommended and adopted by Mr. CANT and Dr. WILLIAMS and brought prominently into notice by Sir ANDERSON CRITCHETT. This plan either with or better still without subsequent perforation of the cornea with a needle seems to be the least dangerous. Dr. A. DARIER has brought forward a case of interstitial keratitis in which subconjunctival injections of tuberculin produced dangerous reaction. Mr. SYDNEY STEPHENSON has adduced statistics to show that from about 2 to 10 per cent. of all cases of interstitial keratitis are due to acquired syphilis and that the corneal affection occurs on the average about 11 years after the primary infection.

Glaucoma.

The propriety of recommending the operation of iridectomy in cases of chronic glaucoma, where vision is continuously or intermittingly failing, is the cause of much heart-searching on the part of the expert because in most cases, founded probably on general impressions, it is believed that improvement rarely follows. Dr. CHARLES BULL of New York has done good service in tracing the results of iridectomy in chronic glaucoma and draws the conclusion that the earlier the diagnosis is arrived at and the operation performed the greater the success, and that as a rule those cases do best in which both eyes have been operated on simultaneously. The effect of resection of the superior cervical ganglion of the sympathetic has been observed by Dr. JOHN WEEKS of New York. He considers that in all forms of glaucoma, except the hæmorrhagic, iridectomy should first be practised. This may be supplemented by anterior sclerotomy in eyes still retaining vision and by posterior sclerotomy in those in which vision is lost. If these proceedings fail sympathectomy may be resorted to. In simple glaucoma he finds that good results are obtained in about 60 per cent. of the cases. Section of the anterior ciliary arteries before they penetrate the sclerotic has been found serviceable in cases of glaucoma by Dr. H. B. CHANDLER, and still another method of treating the chronic forms of this serious disease has been proposed and practised by Major H. HERBERT, I.M.S., which consists in the formation of a subconjunctival fistula, either by producing a subconjunctival prolapse of the iris or by infolding the conjunctiva. This plan was carried out in 130 cases, in all to which, except 18, a small iridectomy was previously performed. The results appear to have been satisfactory.

Cataract.

Major HERBERT, I.M.S., has given in a small volume the details of cataract operations as practised with such astonishing success in India. He prefers the combined operation, that is, he performs iridectomy under as far as possible aseptic conditions, the cornea being rendered insensitive with cocaine, but he also operates without iridectomy. Out of 1172 operations in 26 months he had only 93 poor results or complete failures. Major F. SMITH has very recently advocated the plan of extraction without opening the capsule and gives favourable statistics of this mode of operating in his hands.

An interesting article by Major F. P. MAYNARD, I.M.S., of the Medical College Hospital, Calcutta, in the *Ophthalmic Review* contains an account of the after results of 63 operations for depression of the lens performed by Indian "cataract prickers." Such records are rare. These show that about 46 per cent. of the cases operated on retained good vision after an average interval of nearly five years. Considering the rough instruments at the disposal of the operators and the want of attention in the after-treatment the results are more favourable than might be expected.

A special form of posterior cortical cataract has been described by Dr. W. ROBINSON as of frequent occurrence in bottle finishers in which occupation the workman is much exposed to the heat and the glare of furnaces.

Therapeutic Measures.

The marked influence that adrenalin exerts on the blood-vessels and upon the blood pressure, constricting the former and increasing the latter, has naturally suggested its employment in various conditions of the eye in which the effects might be expected to prove beneficial. Thus, Dr. A. YVERT, Dr. WESSELY, Dr. KONIGSTEIN, Dr. MARQUES, Dr. A. DARIER, whose death has so recently occurred, and many others speak in high terms of its value when applied to the congested conjunctiva in a perfectly sterilised solution of 1 part in solution in 1000 parts of water. The local anæmia it occasions can be augmented with cocaine and the combination of the two remedies appears to be of great service in acute catarrhal affections, in rheumatic conjunctivitis, and in gouty congestion of the conjunctiva. Adrenalin is also useful in iritis and by its depressor action on the blood pressure in cases of glaucoma whether subacute or intermittent, and in cases of embolism of the retinal artery. It appears to be contra-indicated in such operations as iridectomy and cataract where the globe is opened, both Dr. DARIER and Mr. STEPHENSON having noticed intra-ocular hæmorrhage of a serious character. It has been injected subconjunctivally but it must not be forgotten that it is a very dangerous poison, and it is right to add that Mr. A. F. MACCALLAN and others have reported several cases of glaucoma in which the use of adrenalin caused increase of tension.

Subconjunctival injections of solutions of corrosive sublimate have been warmly recommended by Dr. DARIER whose treatise on Ocular Therapeutics has been translated by Mr. SYDNEY STEPHENSON. Dr. DARIER claims for this method a superiority to every other in cases of corneal ulcer, hypopyon-iritis, and inflammatory troubles in the uveal region; in retrobulbar neuritis and in various choroidal and retinal affections. He also advocates massage of the globe which, though anciently practised, is now seldom adopted. The use of the sublimate in subconjunctival injection has also been found very serviceable by Dr. C. S. BULL in orbital cellulitis, whilst Dr. VALOIS of Moulins reports two cases of sympathetic ophthalmitis in which repeated injections of a 1 per cent. solution of mercury cyanide into the orbit of the enucleated eye were followed by marked improvement, the vision of the sympathising eye returning to normal. The injections are productive of much pain, but granting the infectious nature of sympathetic ophthalmitis the local use of mercury in this manner is rational.

Amongst the many new remedies that have been tried with variable success may be mentioned dionine which in 5 per cent. solution in water acts as a mydriatic, effecting great dilatation of the pupil; as an analgesic, without anæsthetic action, relieving the deep-seated pain of iritis and glaucoma; and as a lymphagogue, dilating the blood-vessels and causing an increased flow of lymph through all the deeper-seated tissues, thus improving the nutrition of the cells and removing pathological products. Other remedies are largin, acting similarly to dionine; asaprol, a preparation of naphthol, employed with success by M. GALEZOWSKI in arthritic and rheumatic affections; acoin, which is both an anæsthetic and an analgesic; ichtargan, a combination of ichthyol and silver, which in 3 per cent. solutions advantageously replaces silver nitrate; protargol, in conjunctival affections; and hetol, the cinnamate of sodium, which in 1 per cent. solutions provokes marked phagocytosis, a condition favourable to the absorption of exudations and toxins. Many advantages over nitrate of silver are claimed by various writers for protargol, a combination of protein and silver, but considerable differences of opinion have been expressed in regard to its properties. Lastly, yohimbin is stated by Dr. H. SALOMONSOHN to possess a powerful and persistent anæsthetic effect in 1 per cent. solution and to act rapidly.

The Eyesight of Board School Children.

The testing of the eyesight of the children of the poor has been on several occasions brought under the notice of the School Board for London. It is estimated that about 600,000 children are being taught in the schools and the eight specialists who were appointed last year to inquire into the condition of their vision reported that about 10 per cent. of the children suffered from bad vision throughout the whole of their school life, whilst from 1½ to 3 per cent. had very bad vision, increasing progressively as they passed on to the higher standards. The impairment is in many cases due to errors of refraction remediable by means of appropriate glasses. The mode of dealing with these cases has not been as yet satisfactorily determined. The School Board authorities entirely disclaim any attempt to treat such defective children by medical examination and the prescription of spectacles. The children or their parents are told that their vision is imperfect and they must seek medical advice if they are to make any progress in their work at school. Application to the nearest hospital is, of course, the next step, but it is found that in practice the parents are unable or unwilling to lose a day's work, and if they do attend a hospital they are too poor to obtain the glasses, or too ignorant to insist upon the child persistently wearing them. Moreover, the out-patient room of the nearest general hospital is not always adapted for the treatment of refraction cases. The alternative is for the child to be taken to one or other of the half-dozen hospitals which have ophthalmic surgeons attached to them or to one of the ophthalmic hospitals. Again the question of time comes in but here the objection is raised by the surgeons. When 50 or 60 School Board cases present themselves in one morning, each, for the credit of the hospital, requiring prolonged examination and careful adaptation of glasses, the staff finds itself unable to cope with the numbers applying for relief and refuses to see more than a limited number. The only way out of the difficulty seems to be that the School Board should appoint a salaried officer whose time and attention should be devoted entirely to refraction cases.

Literature.

A new monthly journal entitled the *Ophthalmoscope*, conducted by Mr. SYDNEY STEPHENSON, assisted by Mr. C. DEVEREUX MARSHALL, has appeared. Amongst the more important works that have been published may be mentioned a "Treatise on the Diseases of the Eye, Ear, Nose, and Throat," by Dr. W. C. POSEY and Dr. JONATHAN WRIGHT and various authors; "Physiological Optics," by Dr. W. T. PORTER; "Practical Handbook of the Diseases of the Eye," by Dr. CHALMERS WATSON; "Refraction of the Eye and the Anomalies of the Ocular Muscles," by Mr. E. KENNETH CAMPBELL; "On Squint," by Mr. CLAUD A. WORTH; "The Pathology of the Eye," by Professor R. GREEF; "Pathologische Histologie des Auges," by Dr. SIGISMUND GINSBERG. New editions have appeared of "Ophthalmic Practice," by Mr. C. HIGGENS; "Refraction of the Eye," by Mr. GUSTAVUS HARTRIDGE; "Refraction of the Eye," by Mr. ERNEST CLARKE; "Ophthalmological Prisms," by Dr. ERNEST E. MADDOX; and "Atlas der Ophthalmoscopie," by Professor Dr. O. HAAB.

FORENSIC MEDICINE.

Actions by, or Against, Medical Men.

Since our last annual *résumé* several cases of high importance in which medical men have figured in courts of justice, both civil and criminal, have been recorded in our columns. At the Margate January quarter sessions WILLIAM HERBERT RAY was convicted of unlawful assault upon a girl and sentenced to six months' hard labour. We felt it to be our duty to challenge the equity of the verdict on the grounds that there was practically no corroboration of the testimony of the chief witness and to point out how serious are the risks incidental to medical practice. ROBERT FAWCITT GRANGER, a medical man, and his wife were charged at the Plymouth police-court with having grossly neglected their three children. They were found guilty and sent to prison for two months in the second division. It was proved in evidence that drink had been the cause of the downfall of the prisoners. The General Medical Council took a lenient view of Mr. GRANGER'S offence and have allowed him an opportunity of retrieving his position, he, on his side, promising abstention from alcohol. Professor J. W. BYERS of Belfast had the misfortune to meet a claim for damages for breach of promise of marriage made against him by a nurse. He was subjected to the meanest forms of persecution at the hands of the plaintiff and as showing the baseless nature of the action she did not put in an appearance when the case came on for trial at the Belfast city assizes. In proof of the high esteem in which Professor BYERS was held both as regards his personal and professional character he received a testimonial from a wide circle of fellow practitioners and citizens upon his triumphant vindication of his innocence. In Scotland, before the Lord Justice Clerk, Dr. JOHN CUNNINGHAM was sued for damages, laid at £1000, by the widow of a man named GILLIES who had died whilst under the influence of chloroform administered for the performance of a minor operation. The grounds of claim were that the deceased had been given the anæsthetic against his will and whilst in an unprepared state to inhale it, having partaken of a hearty tea. No other medical man was present. Many practitioners of the highest repute gave evidence in refutation of the allegations and the jury returned a verdict for the defendant.

Antivivisection Tactics.

In the case BAYLISS *v.* COLERIDGE, heard recently in the King's Bench Division of the High Court before the Lord Chief Justice, £2000 were awarded as damages for libel. At a public meeting held by the National Antivivisection Society the defendant accused Mr. BAYLISS, assistant professor of physiology at University College, of having performed an operation on a dog without the animal having been properly anæsthetised, which meant that Mr. BAYLISS had rendered himself liable to a charge of misdemeanour for having contravened the terms of his licence granted by the Home Office. The defendant for the purposes of his speech had adopted a statement communicated to him by two ladies, members of a foreign antivivisection society, who had attended the physiological demonstration in question. The usual defence was pleaded: that in so far as the libel consisted of facts it was true and that it was published without malice and in the public interest. The "facts" were not substantiated in court.

The General Practitioner and Post-mortem Examinations.

The London County Council, desirous for the public benefit of assisting coroners in the discharge of their official duties, passed a recommendation that in cases of special difficulty the services of a medical man specially versed in pathological knowledge should be available. One coroner in particular adopted the suggestion to a greater extent than was intended by the Council, in that he called to his aid a gentleman nominated by the Council in a large number of ordinary post-mortem examinations to the exclusion of other medical men having more intimate knowledge of the cases to be inquired into. This was felt to be a real grievance by the great bulk of general practitioners who naturally considered themselves slighted, besides being deprived of customary fees. We felt bound to espouse their cause, firstly, on account of the questionable legality of the procedure and, secondly,

because in our opinion the vast majority of medical practitioners are fully qualified to conduct necropsies in cases where no particular difficulty is likely to arise. It is with pleasure that we record the fact that the cause of the friction has considerably abated. *Apropos* of the subject under consideration we published a very able paper by Dr. H. H. LITTLEJOHN, though we could not subscribe to his chief contention that post-mortem examinations made for the purpose of judicial inquiries should be intrusted solely or mainly to expert pathologists.

Legal Cases of Medical Interest.

An unusual number of appalling crimes inquiries into which were largely based upon medical evidence have been perpetrated during the year. That which aroused the greatest public interest was investigated at the Chelmsford assizes before Mr. Justice LAWRENCE. An ex soldier named DOUGAL was charged with having murdered a lady named HOLLAND by shooting her in the head with a revolver. After having ingratiated himself in her favour to the extent that he persuaded her to live with him as his wife he took her life, presumably for the purpose of possessing himself of her property. He buried her body in a ditch and for four years lived within sight of the place of sepulture, to all appearance unmoved by remorse. To obtain her money he resorted to the most barefaced forgery which for a long time was unsuspected. His career, one long history of cruelty, lust, and crime, terminated on the scaffold. The trial disclosed an admirable instance of constructive identification. At the first the difficulties appeared likely to be unsurmountable, but in the end conviction was secured by evidence that left no loophole for the prisoner's escape. In this case, as in that of the late Miss S. F. HICKMAN, it was shown that the kidney of the deceased woman had resisted the agents of disintegration to a greater extent than the uterus. To Miss HICKMAN's death we need make no further reference, the facts having been so recently chronicled in our columns.

The practice of baby farming received a remarkable illustration and a powerful check when two women named SACH and WALTERS respectively expiated their guilt by the death penalty. The former culprit kept a "bogus maternity home" into which she admitted single women for confinement. This so far might have been an innocent calling, but it was in reality only the means for obtaining large sums of money for the ostensible purpose of getting the newly born children adopted by people of wealth and position. WALTERS was employed by SACH to murder the children and to dispose of their bodies.

To the list of notorious poisoners must be added the name of KLOSOWSKI, alias GEORGE CHAPMAN. After a four days' trial at the Old Bailey this criminal was condemned to death on March 19th. The original charge related only to the murder of a young woman named MAUD MARSH, but during the investigations into this case it was shown that KLOSOWSKI had done to death two other women by the same means—viz., antimonial poisoning. One had been certified as having died from obstruction of the bowels and the other from tuberculosis. The medical man who attended MAUD MARSH had also ministered to one of the other women during her fatal illness. The symptoms were much the same in the two cases—gastro intestinal irritation and progressive asthenia. It is noteworthy that not only was the family medical attendant baffled in his attempt to establish the cause of MAUD MARSH's illness but that at Guy's Hospital, where she was an in-patient, she was thought to be suffering from peritonitis. KLOSOWSKI was proved to have purchased a large quantity of tartar emetic some years before. The simulation of natural disease by the effects of antimony poisoning has on many previous occasions led to mistaken diagnosis. The bodies of KLOSOWSKI's first two victims were remarkably preserved from decomposition, although one had been buried for a period of years. The motive for the crime in each instance seems to have been, in the words of the Solicitor-General, "cruel, pitiless lust."

In an action brought by a married woman who had sustained a severe nervous shock by seeing a house collapse in which she believed her children to be Mr. Justice BIGHAM held that the plaintiff was entitled to damages, although there was no physical impact of anything that injured her; he further held that she was so entitled in respect of injury through fear for her own safety but not in respect of injury caused by her fear for the safety of her children. In cases of this kind the result must necessarily depend largely upon medical evidence.

Among convictions of persons using titles or descriptions implying registration under the Medical Acts was that of LOUIS LAMB BAILLES formerly a registered medical practitioner but removed from the Register after a conviction for felony. The defendant was employed by a person or persons known as the Dr. McLaughlin Company in connexion with the sale of "electric belts," and was charged in two summonses with using the description "Dr." implying registration and also with using that of "M.B.," of which his university had deprived him.

Several instances occurred during the year of the neglect of parents to secure medical aid for their children when suffering from illness or injury, some of which were followed by prosecutions under the Cruelty to Children Act, 1894. The majority of these cases were due to the religious beliefs entertained by the parents At an inquest at Manchester, however, it was proved that a parent whose child ultimately died from broncho-pneumonia had failed to call in a medical man and had instead, on the recommendation of his neighbours, had recourse to a quack medicine sold under the name of JACKSON'S Febrifuge. This was described in advertisements as capable of curing about 30 specified diseases and evidence was given that thousands of gallons of it were sold in the year. The coroner described the traffic in it as a "common swindle" and a verdict of death from natural causes was returned. In two instances persons influenced by religious fanaticism allowed their children to suffer from broken bones which they professed to heal by prayer and faith; in one of these a fine of £20 was imposed and in the other the father was sent to prison for a month.

Les Morts Bizarres.

Fewer deaths than usual from chloroform narcosis have been recorded. We trust that future years will see a further reduction of this class of fatality from misadventure.

Two deaths from electric shock occurred at a public bath. The victims succumbed owing to a leakage from a charged conductor passing through their bodies We pointed out that 200 volts would probably produce little effect if contact was made when the hands were dry and the feet were shod, whereas even six or eight volts would start tetanus in muscle of an individual immersed in water. As a precaution against the repetition of the above-mentioned disaster we advised that no electric-light fittings should be placed so that they could be reached by a person in a bath.

Two instances of fatal poisoning by carbon monoxide have been published in our columns. The late Mr. QUINTIN HOGG fell a victim at the Polytechnic to the effects of the products of incomplete combustion from a gas heater. Two children lost their lives owing to an escape from a defective gas pendant. In the manufacture of coal gas the proportion of carbon monoxide seems to be on the increase, the deficiency of illuminating power being supplied by the addition of an "enricher." In consequence of this excess of carbon monoxide a leakage of coal gas, barely recognisable by the smell, is distinctly

dangerous to health. LAMIE in 1891 showed that carbon monoxide could be obtained from the desanguinated brains of dogs killed by the gas. That carbon monoxide is readily taken up by nerve tissue has been further proved by Croizet of Paris who has shown that after the acute symptoms of poisoning by the gas have passed away secondary manifestations may appear in the form of peripheral neuritis and trophic lesions.

The fact that certain fungi—e.g., penicillium glaucum—are capable of assimilating arsenic and giving off arsenical fumes has directed attention to another means by which the poison may be distributed from wall paper and other fabrics and also that fungi may be utilised for toxicological purposes in the detection of arsenic. M. E. APERT has published in the Transactions of the Société Médicale des Hôpitaux cases of Plumbism in Pearl Setters. The metal gained access to the system through the workers licking their fingers carrying lead-laden paste.

Dr. F. J. WALDO held an inquest on the body of a man who had died from acute poisoning by tannin. The deceased had fallen into a pit of tanning liquor; death resulted three and a half hours later from violent diarrhœa and vomiting. A similar case was recorded in Germany 40 years ago. It would seem that tannin is an irritant poison when taken in large doses.

A somewhat singular death from colchicine occurred in France. A man, aged 43 years, the subject of nephritis and gout, was ordered a capsule containing a quarter of a milligramme of colchicine and 20 grammes of salicylate of methyl eight times a day. To cut short an attack he took 12 capsules within the space of an hour. He vomited mucus tinged with black blood, passed blood in the motions and urine, and had muscular tremors which were exaggerated by excitement. The muscles became tender. Ecchymotic spots appeared on the limbs. The urine at the time of death—ten days after the ingestion of the poison—contained colchicine. The usual symptoms of colchicine poisoning—headache, abdominal pain, abundant vomiting, and diarrhœa—were absent.

Farmer v. Glyn-Jones: Stamp Duty on Medicines.

In this case a retail druggist had purchased from a manufacturer ammoniated tincture of quinine and had sold it with the label "Ammoniated Tincture of Quinine B.P. A well-known and highly recommended remedy for Influenza and Colds. Dose—1 teaspoonful in water every four hours until relieved. GLYN & CO., chemists, 15A, East India-road, E." It was contended on behalf of the Board of Inland Revenue that the preparation thus offered for sale required a stamp under the Medicine Stamp Duty Acts. It was decided by the Divisional Court that no stamp was required, the court holding that "a retail druggist who purchases a preparation of medicinal drugs from the manufacturers or from other persons and himself attaches to the bottles in which he retails it a label recommending it as a remedy for specified human ailments is not the 'owner, proprietor, original or first vendor' thereof within the meaning of 53 Geo. III., c. 150, and that if the preparation at the time that he so purchased it was exempt from stamp duty the fact of the retailer attaching the said label will not deprive it of the exemption." In this case it was held that a stamp was not required. As a result, however, of the discussion of the law in this and in other recent cases the Board of Inland Revenue has expressed its intention to press for the use of stamps in many instances where the duty has hitherto not been levied. According to one of the intimations thus given stamps will be required not only where admitted nostrums or secret remedies are sold and where the medicine is recommended in plain terms for the cure of a disease but also where any compounded medicine is labeled with the name of an ailment or of an organ of the body so as to suggest its use, as, for example, "cough mixture," "liver pill," except in the case of such compounded medicines being sold by qualified druggists either with a statement of the formula of the prescription naming the quantity of each ingredient or where the medicine has been compounded in accordance with a formula in the British Pharmacopœia or other well-known book of reference with a statement to that effect upon the label. The effect of any step such as that indicated on the part of the Board of Inland Revenue would be felt principally by those traders who deal in medicinal compounds without qualification to do so and by such druggists as carry on a somewhat similar trade. It may be anticipated that future prosecutions will render the law still clearer.

Death Certification without Inspection of the Body.

In more than one instance attention was called to the danger of fraud being promoted and assisted by medical men giving death certificates without actual knowledge of the fact of death. It is not necessary that a medical man should see the dead body of his patient before certifying, but he is empowered by the form of certificate issued to him to qualify his statement that death has taken place by the words, "as I am informed." Where by a mistake or by an intentional misstatement a medical practitioner is induced to believe that a patient likely to die is dead a death certificate given by him may be used for the purpose of defrauding a life assurance office.

Cremation and the Detection of Crime.

The practice of cremation in relation to a possible impunity that might be enjoyed by murderers has loomed large on the medical horizon. The growing practice of destruction of bodies by heat had intensified the public misgivings. Although much could be said in its favour it was feared that the evidence of crime might be abolished and the interests of justice defeated. A further objection was that an innocent person suspected or accused of criminal poisoning would be unable to establish his innocence. In discussing the regulations to govern cremation framed by the special committee appointed to report on the question, we felt justified in supporting the procedure recommended. It has been demonstrated that arsenic can be detected in the ashes and bones of cremated bodies. During the process of combustion alkaline salts are formed which combine with the arsenic and fix it as arsenite or arseniate.

Lunacy and the Law.

As the result of a paper read by Sir WILLIAM GOWERS at the general meeting of the Medico-Psychological Association held at the County Asylum, Mickleover, Derby, on Feb. 12th, a discussion took place in the medical press and also in lay newspapers as to the provisions of the existing law with regard to the certification and detention of persons of unsound mind. It was suggested that such change was desirable as would enable patients who are on the verge of mental derangement, or who need temporary care only, to be detained and treated in institutions suited to their requirements without their being submitted to the same forms of certification as more seriously and more permanently deranged persons.

The Fees of Medical Witnesses.

A departmental committee, appointed to consider the question of allowances from public funds to prosecutors in criminal cases, made its report. It had heard evidence from persons representing various classes interested, and had considered among other matters the fees allowed to medical witnesses. The suggestions with regard to these contained in the report did not go quite so far as those made by the medical witnesses before the committee. They tend, however, to increase the fees payable to witnesses at assizes and at quarter sessions, as well as to introduce uniformity into the practice in respect of payment for medical evidence before magistrates at petty sessions.

The Medical Officer of the Ballachulish Slate Quarries.

A medical man, by a contract under which he was to attend the workmen at a slate quarry, bound himself to accept a month's notice from his employers (the directors of a joint-stock company) and to give up any other appointments which he might then hold in the neighbourhood and any private practice there. Having received notice to terminate his employment from the directors of the company he had an action brought against him by them to prevent his continuance in his private practice in the district and in the appointments which he had obtained in the neighbourhood. This he resisted, maintaining that his dismissal was so given that the other conditions he had entered into were not binding upon him. It was held in a court of law that he was bound by them and he subsequently failed upon appeal. The attitude of the men employed in the quarry, who warmly espoused the side of the medical man, no less than the inherent fairness of the medical man's claims, seemed likely from the first to bring about his re-instatement and we were glad to record in a recent number this happy issue. The case is of importance to medical practitioners who on undertaking appointments should closely study the conditions imposed and the contingencies which may arise under them.

Burroughs, Wellcome, and Co. v. Thompson and Capper.

Messrs. BURROUGHS, WELLCOME, and CO., the well-known firm of wholesale druggists, obtained in this action, which was heard in the Chancery Divison before Mr. Justice BYRNE, an injunction against the defendants to restrain them from passing off goods not of the manufacture of Messrs. BURROUGHS, WELLCOME, and Co. as the goods of those manufacturers under the name of "tabloid" or "tabloids." These two words had been registered as trade marks by the plaintiff firm under the Patents, Designs, and Trade-marks Act of 1883 as "fancy words not in common use" and the defendants, by way of counter-attack, applied to have them removed from the Register of Trade-marks as not answering this description. The judge held that "tabloid" and "tabloids" were at the date of registration fancy words not in common use within the meaning of the Act and refused to grant the order asked for with regard to them. A large amount of evidence was given by medical witnesses and others showing that the words in question were regarded as the trade-marks of the plaintiffs and that their use was known to refer to the goods of the plaintiffs to the exclusion of those of other manufacturers.

DENTAL SURGERY.

Papers and other Communications.

During the present year Dr. W. MILLER of Berlin has published in the *Dental Cosmos* an interesting and valuable series of papers on Immunity in the Human Mouth. The results obtained justify him in concluding that the protective powers present in the human mouth are not to be accounted for by any antiseptic action on the part of the saliva but rather by the phenomenon of phagocytosis, by the struggle for existence, and probably by certain forces residing in the soft tissues which have not yet been investigated. In some researches on the comparative susceptibility of different teeth to caries Dr. MILLER has established the fact that there is a great difference in the rapidity with which different dentines are softened by acids and that this difference bears a certain relation to the density of the dentine and to the percentage of the calcium salts which it contains. Mr. W. ARBUTHNOT LANE, in a communication to the Odontological Society of Great Britain, drew attention to some of the mechanical factors which determine the development of the bones of the face. Many of his views are open to criticism by the dental surgeon but his paper has done good service by directing the attention of the latter to the constant association of various deformations of the teeth and jaws with imperfect performance of the functions of the naso-pharynx. In a paper on Electrotherapy Mr. C. A. CLARKE has described a tube for the x rays which can be used in the mouth. Attention has been drawn to the importance of asepsis in dental practice by Mr. W. GUY who pleads that more attention should be given to this essential of surgical practice at the dental hospitals. In connexion with chronic periodontitis Mr. J. G. TURNER has drawn attention to the occasional presence of thickening of the alveolar process over the region of the roots of the affected teeth, the appearance simulating exostosis. A case in which the mandible was fractured during the attempted removal of a third molar was recorded by Mr. J. H. BADCOCK. Several papers have been read before the various dental societies on somnoform and ethyl chloride and the general consensus of opinion of dental practitioners is that both agents under certain conditions possess distinct advantages over nitrous oxide or nitrous oxide and oxygen combined, the length and character of the anæsthesia and the ease of administration rendering these anæsthetics especially useful with children.

Operative Dentistry.

There have been numerous contributions dealing with the technique of the treatment of teeth by fillings and crowns; indeed, this aspect of dentistry seems to attract far more attention from the dental practitioner than do such important problems as the nature and cause of dental diseases. The use of gold as a filling is rapidly being displaced by amalgam. Since the publication of Dr. W. BLACK'S papers on Amalgams a great improvement has taken place in the preparation of the filings used to make such fillings and it is now possible to make amalgam fillings which will retain their shape. An advance, too, which is deserving of praise has been made by certain manufacturers who publish with the various fillings supplied the exact composition. In order that the best results may be obtained with amalgam it is necessary that the amount of mercury should bear some definite ratio to the amount of filings. Some difficulty has so far been experienced in carrying this out owing to the lack of simple and correct apparatus. This difficulty seems to have been overcome by Mr. W. J. MAY and in a paper read before the Odontological Society of Great Britain he has described and figured an ingenious apparatus for measuring mercury and a somewhat similar one for weighing the filings. Advance has been made in the methods of preparing porcelain inlays and crowns.

New Books.

Of new books Mr. A. HOPEWELL-SMITH'S on "The Histology and Patho-Histology of the Teeth" is perhaps the most important and is a valuable contribution to the subjects with which it deals. A useful little work entitled "Studies in Comparative Odontology" has been written by Mr. A. S. UNDERWOOD. Two books published in America are also worthy of notice, one by Mr. I. BROOMELL on the "Anatomy and Histology of the Mouth and Teeth" and the other by Mr. J. S. MARSHALL on "Injuries and Diseases of the Face, Mouth, and Jaws."

Obituary.

The obituary of the year includes Mr. J. C. WOODBURN of Glasgow who was for some time examiner in dental surgery at the Faculty of Physicians and Surgeons, Glasgow; Mr. HERBERT CANTON, R.N., who was for three years instructor in dental surgery at Haslar Hospital; Mr. PETER CROMBIE, one of the first to practise dentistry in Aberdeen; Mr. DANIEL CORBETT, jun., of Dublin, one of the promoters of the Dental Hospital of Ireland; and Mr. R. H. WOODHOUSE, for many years a member of the staff of the Royal Dental

Hospital, Leicester-square, and a man who was held in high esteem by his fellow practitioners.

ANATOMY AND PHYSIOLOGY.

The star of physiology is at the present moment undoubtedly in the ascendant. The violent diatribes of the antivivisectionists have defeated their own object by leading many unbiased and intelligent persons to inquire into the aims and uses of physiological research, with the result that they have satisfied themselves that the experimental physiologist is not necessarily cruel and hard of heart as his maligners have represented him to be and that although pain may be, and doubtless is, on rare occasions inflicted upon animals, it is no more than the surgeon is often called upon to give to his patients in the practice of his profession, whilst its object is in all instances, either directly or indirectly, to alleviate the suffering of man and with him of the animal kingdom in general. With the wider and more discriminative recognition of the objects of physiology by the public we find that laboratories intended for the prosecution of this as well as other departments of biology have been formed, or are in course of erection, in all the great cities of the empire, often fully equipped and at great expense. In those which are already established a large body of trained observers, employing very different methods of research, are unremittingly engaged in the endeavour to penetrate and to comprehend those secrets of nature appertaining to life which have so long resisted interpretation. The seed is germinating. The fair flower is still to come.

Digestion.

Amongst the most practical and interesting investigations that have been made during the past year are those upon digestion by Professor J. P. PAWLOW, the director of the physiological department of the Institute for Experimental Medicine in St. Petersburg. He, with his assistants, has been occupied with this subject for several years, but the general conclusions at which he has arrived have only lately been published in a small volume, well translated into English by Dr. W. H. THOMPSON, with the title of "The Work of the Digestive Glands." Professor PAWLOW'S experiments were chiefly made upon dogs, in some of which œsophagotomy was practised, so that the food given and swallowed could be removed before its entry into the stomach. In others by an ingenious operation a diverticulum or pouch of the stomach was formed which being shut off from the main cavity permitted examination of the pure secretion without any contamination of it with the products of digestion. In others, again, a pancreatic fistula was made, not by inserting a cannula into the duct, but by attaching to the skin of the abdomen the portion of mucous membrane on which the duct opens. The results obtained show that the gastric, pancreatic, and other secretions poured into the alimentary canal are by no means of uniform composition but that they vary both as to quantity and quality with the nature of the food, that they are adapted to the separately and successively occurring phases of the elaboration of the substances ingested, and that they are affected to a remarkable and unsuspected extent by psychic influences, so that he feels justified in saying that the appetite, excited by the senses of sight and smell, is the first and mightiest stimulus of the secretory nerves of the stomach, inducing it to secrete large quantities of the strongest fluid, as may be well seen in the make-believe or sham feeding experiments. In the case of the pancreas it appears that the gland responds, as it were, to the different kinds of food by variations in the proportions of the several enzymes that are ordinarily present, the largest proportion of proteid ferment being present in the juice secreted on a meat diet, of the amylolytic ferment on a bread diet, and of the fat-splitting enzyme or ferment on a milk diet. Professor PAWLOW has hence been led to attribute to the terminal fibres of the vagus a specific sensitiveness to the stimulus of each kind of food. Lastly, he considers that the intestinal juice, or succus entericus, contains a ferment to which he has given the name of "enterokinase" and which possesses the remarkable property of augmenting the activity of the pancreatic ferments and especially of the proteolytic ferment. It acts, therefore, as a ferment of ferments. Researches of a somewhat similar character have been undertaken by Mr. W. M. BAYLISS and Dr. E. H. STARLING who state as the result of their experiments that the secretion of pancreatic juice when acid is introduced into the duodenum is not due to reflex action but is consequent on the formation of a substance which they have named "secretin" by the cells of the intestinal mucous membrane. This substance is immediately absorbed into the blood-vessels and is carried by the blood to the pancreas where it acts as a specific stimulus to the gland cells. The presence of secretin in the venous blood returning from a loop of intestine into which acid had been introduced has been demonstrated by Professor WERTHEIMER.

Digestion in Plants.

But even Professor PAWLOW'S researches do not exceed in interest the results of the researches of Professor SYDNEY VINES, the President of the Linnean Society, upon the enzymes produced by plants. That certain plants are capable of capturing small insects has long been known, but it was reserved for DARWIN to demonstrate how this is accomplished by means of a secretion; how this secretion, in the case of the sundew, possesses a digestive power for albumin; and how, further, the ferment or enzyme of the sundew family is closely analogous to, or identical with, the pepsin of animals. Subsequent observers showed that the secretion of the pitcher plant and the juices of other plants like those of the papaw and pineapple had digestive powers, but some doubts having been cast on these statements Professor VINES was led to reinvestigate the subject and has arrived at the remarkable conclusion that proteases or proteid-digesting enzymes or ferments are to be found not only in a few insectivorous plants but in many plants and in many parts of plants, as in fruits, seeds, stems, leaves, tubers, and roots. The function of these proteases is to break up and to render soluble and diffusible the organic nitrogenous substances which the nutritive processes have built up and which are stored in their tissues. If plants thus commonly produce a protease in their interior it is not surprising that it should be exuded or secreted and discharged from the surface of the leaves in some particular instances, as for example, in the insectivorous plants. In passing, Professor VINES notices the great importance of such enzymes in promoting the digestion of the large quantities of vegetable substances consumed by ruminants and other herbivorous animals which thus ingest with the nutriment the means of digesting it. Professor VINES points out that the several proteases of the gastric juice, pancreatic fluid, and of the juices of plants differ not in kind but only in degree. They form, as he has expressed it, a series in which trypsin, active alike in peptonisation and in proteolysis, occupies a central position, having, on the one hand, pepsin with its active peptonisation and slight proteolysis and, on the other, erepsin or enterokinase with its active proteolysis and slight peptonisation.

Dietetics.

Some very interesting dietetic studies have been published by the United States Board of Agriculture, having special reference to the Chinese in New York. The Chinese are here shown to have a more varied and more liberal diet than the Europeans, and equally nutritive, fully supplying the wants of the economy during hard work and being at the same time very cheap. In the United States, as well as in this country, the extravagance of the poor arising from ignorance is accountable for much of the distress which they experience. Mr. ATWATER and Mr. WOODS, who studied the

dietaries of many families living in the worst slums of New York, instance the case of the family of a mechanic who had received much help from the Association for the Improvement of the Poor and yet it was found that in his case the expenditure upon food was nearly twice that per head in the family of a well-to-do professional man, hardly anything being left over from the wages earned for fuel, lights, clothing, and the many other requirements of a family. In fact all evidence goes to show that the poor should be educated in the principles of economy, and particularly in one department of it—cookery.

The Action of Muscle.

The Croonian lectures of the Royal College of Physicians of London were intrusted to Dr. C. E. BEEVOR who described the various methods of determining the action of muscles as the anatomical, electrical, and physiological, and pointed out the fallacies and difficulties of each and discussed at considerable length and with much ability the particular muscles effecting the different movements of the several joints, together with the interesting subject of the action of antagonistic muscles. Finally he gave the results of his own experiments made in conjunction with Sir VICTOR HORSLEY, in which every two square millimetres of the excitable portion of the cortex of the brain in the monkey were examined to determine the cortical representation of the several groups of muscles.

K. MÜNCH has set forth an old view of the structure of muscle that the appearance of transverse striation is due to the closely compressed spiral arrangement of the anisotropous substance which is best seen in the muscles of the Myniops variolosus. In accordance with this he maintains that the fibre does not contract but that the current of force circulating in the disc-spiral shortens the fibre.

The Minute Anatomy of the Spinal Cord.

Professor C. S. SHERRINGTON, F.R.S., and Dr. E. E. LASLETT have endeavoured to trace the origin and the course of the fibres composing the dorsal spino cerebellar tract. They have shown that one of the laws of reflex action formulated by PFLÜGER, which is to the effect that reflex irradiation in the spinal cord spreads anteriorly or upwards, does not hold good at least in the cat and the dog, as well as probably in other mammals, and they supply evidence that each spinal segment possesses many neurons with backward running axons which connect it with all the segments behind it.

S. VON SCHUMACHER finds that the nervus depressor is present in all mammals. In man it is represented by the cardiac branch of the superior laryngeal nerve and the superior cardiac branches of the vagus. The depressor terminates in all mammals in the wall of the aorta. The nervi accelerantes terminate in the ventricles and auricles, the left heart always having the larger supply. The branches to the ventricles arise from the middle cervical ganglion and from the succeeding ganglia as far as to the sixth dorsal ganglion.

Dr. W. E. DIXON and Dr. T. G. BRODIE have demonstrated that the vagi contain both broncho-constrictor and bronchodilator fibres, each vagus supplying the lung of its own side only. The sympathetic does not contain either dilator or constrictor fibres.

Histology.

The application of special methods of preparation of nerve cells and of blood corpuscles and of high powers of the microscope has revealed new features in these objects. Thus Dr. VLADISLAV RUZICKA of Prague describes a delicate network traversing the interior of the red blood corpuscles of the frog and Dr. FRED MEVES of Kiel depicts annular markings in the red corpuscles of the embryo chick. A Russian microscopist, Madame RACHEL PEWSNER NEUFELD, has described in considerable detail and has illustrated by careful drawings a system of intracellular lymphatic canals in the ganglion cells of the spinal cord in mammals, and Dr. EMIL HOLMGREN of Stockholm describes intracellular branching cords in the spinal nerve cells of lophius piscatorius which stain intensely black with iron hæmatoxylin.

Researches on Development.

One of the most interesting results of recent researches by many observers, whose statements have been collected by Mr. THOMAS BRYCE and recorded in the *Quarterly Journal of Microscopical Science*, is that the nucleus of the ovum in animals of different classes may be excited to activity by various physical agents and that the mitotic division of the nucleus which ordinarily results from fertilisation by the spermatic fluid can be effected by increase of osmotic pressure, by agitation, by elevation or by depression of temperature, by exposure to hydrochloric acid in sea water and subsequent restoration to pure sea water, and lastly by continuous exposure to a solution of certain specific chemical substances such as chloride of potassium and chloride of calcium. In some instances development has proceeded to completion so that true artificial parthenogenesis occurs.

Dr. W. H. GASKELL has continued his researches into the origin of vertebrates, which have led him to conclude that this division of the animal kingdom arose from the group of protostraca in common with the crustacea and arachnida and in particular from members of the protostraca in which the arthropod characters had already become well developed and were, in fact, nearer the trilobites than the polychæte worms. The nearest living representative of the most primitive arthropod type is the remarkable animal named Peripatus.

Sir MICHAEL FOSTER, finding probably that it was impossible to discharge efficiently the duties of professor in the School of Physiology at Cambridge, which he created and has developed with such remarkable success, and those which devolve upon him as the representative in Parliament of the University of London, has resigned the professorship and also the secretaryship of the Royal Society. His successor in the chair of physiology is Professor JOHN N. LANGLEY who has long acted as a most capable assistant to Sir MICHAEL FOSTER in the maintenance of the high repute of the School of Physiology and is well known as an original worker and an admirable instructor. Sir ARCHIBALD GEIKIE has been appointed in Sir MICHAEL FOSTER'S place as secretary of the Royal Society.

Obituary.

Several distinguished physiologists have passed away, amongst whom may be mentioned Professor IMMANUEL MUNK of Berlin who died at the early age of 51 years and whose researches on the absorption of fat in the intestines, the general metabolism of the body, and on physiological chemistry are well known. He was a distinguished teacher. Professor SIGMUND FUCHS, professor in the Hochschule für Boden-Cultur or Agricultural College in Vienna, has died at the still earlier age of 44 years. By the deaths of these two professors the *Centralblatt für Physiologie* has the misfortune to lose both its editors in the course of a few weeks. Professor LANDOIS, whose work on physiology ran through so many editions in Germany and was translated into English by Professor W. STIRLING, died at the close of 1902.

Morphologists have to mourn the loss of two distinguished members of their body. CARL GEGENBAUR of Heidelberg, who died at the age of 77 years, was a most energetic worker and original thinker as well as a voluminous writer and will long be remembered by his researches on the development and homologies of the vertebrata and upon histogenesis. JULIUS VICTOR CARUS, who lived to the age of 80 years, was for a time the conservator of the University of Oxford Museum and took part in the *Challenger* expedition.

Bibliography.

Numerous works of interest have been published, amongst which may be mentioned the following: Sir MICHAEL FOSTER, "Lectures on the History of Physiology during the Sixteenth, Seventeenth, and Eighteenth Centuries"; Dr. NOEL PATON, "Essentials of Human Physiology"; Mr. J. BLAND SUTTON, "Ligaments, their Nature and Morphology"; Professor GOETTE, "Lehrbuch der Zoologie"; Dr. OTTO VON FÜRTH, "Vergleichende Chemische Physiologie der Niederen Thiere"; Dr. KARL SCHNEIDER, "Lehrbuch der Vergleichenden Histologie der Thiere"; Professor MAX VERWORN, "Die Biogenhypothese"; and Dr. JOHANNES SOBATTA, "Atlas and Epitome of Human Histology and Microscopic Anatomy."

ANÆSTHETICS.

The general features of the year's work may be summarised as the introduction of methods of greater precision for the administration of chloroform, some not unimportant advances in our knowledge of the action of that anæsthetic upon the organism, a widespread adoption of ethyl chloride and mixtures containing that body, and, finally, further contributions to our knowledge of local analgesia and the subarachnoid injection methods.

Medico-Legal and General.

More than one paper has appeared during the year as well as many scattered references, especially in the medical press of the United States of America, dealing with the status of the anæsthetist. England for many years has been exceptional in training medical men especially for the work of anæsthetists and now compels students to obtain special training in that branch of practice. Scotland also possesses specialists and the want expressed in the American medical press has, we gather, been met by the appointment of anæsthetists to the leading hospitals. In the columns of THE LANCET extended notice was taken of some disagreement between the controlling authorities and the staff of anæsthetists at a London hospital and the result certainly strengthened the position of the staff, while we believe it was beneficial to the best interests of the hospital in question.

The question of the status of the anæsthetist was introduced by a letter in our correspondence columns and in commenting upon it we pointed out that the trend of professional feeling, as well as that of the public, was towards a more adequate appreciation of the services rendered by the anæsthetist. On the other hand, such appreciation carried, we thought, an increased obligation that the anæsthetist should recognise his own limitations and the heavier responsibilities of the surgeon. A discussion upon this question has recently appeared in our columns.

A case of much interest was reported in THE LANCET of April 25th, p. 1183, in which the wife of a man who died under chloroform sued the medical man for damages. The verdict was for the defendant. Much expert evidence was adduced and much discussion followed. That the profession must be prepared for more frequent charges in connexion with anæsthetisation seems probable and the anæsthetist must in such an event be able to show that he possessed reasonable skill and took all proper precautions to achieve a successful issue. In another case[1] no verdict was given as the jury disagreed and a new trial was obtained upon a technical point.

Chloroform.

Almost from the first introduction of this anæsthetic the doctrine of its safety being dependent upon its dilution began to be appreciated. The methods, and their name is legion, which promised a dosimetric system of giving chloroform have all lacked some essential. In the most recent attempt Mr. A. VERNON HARCOURT[2] provides an apparatus which not only regulates the dilution of chloroform in percentages but gives a maximum of about 2·5 per cent. and supplies an index by which the anæsthetist can at once see the *strength* of the vapour inhaled but can at will increase or decrease it. As the inhaler depends upon the aspiration of the patient during inspiration the actual quantity of anæsthetic taken is decided by the depth and rapidity of the respiration. The amount, however, is quite subsidiary to the dilution, so that we are in harmony with those observers who, having tested this inhaler, speak well of it.[3] Dr. A. D. WALLER[4] describes and claims as a valuable means of giving exact percentages the mechanical chloroform inhaler suggested by Dr. DUBOIS of Lyons. With this instrument the objection, if objection it be, to which we refer above is removed, but in its place is the more elaborate complication of the mechanism of Dr. DUBOIS'S instrument. This is a drawback even in hospital work and still greater in private practice. It is a matter for congratulation that the rational view of the action of chloroform—that it acts in direct proportion to the dose given (i.e., its dilution) to the patient—has so far gained ground that efforts have been made to invent apparatus capable of controlling the dilution. It remains as a question yet to be determined what percentage vapour is a safe one. In the elaborate report[5] presented by the committee appointed by the British Medical Association we find evidence that from 2 to 3 per cent. is regarded as safe—a lower estimate than that previously given by SNOW and CLOVER. In this report appears a research by Professor SHERRINGTON and Miss SOWTON upon the effect of various dilutions of chloroform upon the isolated mammalian heart. Their experiments appear to suggest that chloroform in certain strength has a direct toxic effect upon the heart muscle, but that long-continued action, so far from superinducing an effect from cumulation, establishes a species of toleration. In moderate doses also chloroform passes directly away from the heart muscle, when the perfusing fluid possesses a lower chloroform tension, a fact which suggests the questions—Can this drug poison the muscle without entering into chemical combination with its substance? Does it act as an antikatalysator on the ferment processes at the root of the normal functional activity of the contractile tissue of the heart? Dr. F. W. TUNNICLIFFE and Dr. O. ROSENHEIM,[6] also adopting LOCKE'S method of isolating the mammalian heart, presented interesting conclusions in a communication to the Physiological Society. Comparing their experience with that of POHL they found that practically the same quantities of the drug produced similar results in narcotised animals (POHL) and in the isolated mammalian heart and that a very narrow margin existed between the quantity of chloroform just borne in narcosis and that which stopped the heart. In their experiments with ether Dr. TUNNICLIFFE and Dr. ROSENHEIM were unable to produce any serious effects upon the heart with even as great a strength as 1 in 500. Professor E. A. SCHÄFER and Dr. H. J. SCHARLIEB have contributed a research to the same society dealing with the action of chloroform upon the heart and blood-vessels. They believe that their experiments show that it is the action of chloroform upon the inhibitory mechanism of the heart which produces syncope and that the result of perfusion of chloroform is to induce contraction and

[1] New York Medical Journal, Feb. 21st, 1903.

[2] THE LANCET, March 21st, 1903, p. 800.

[3] See Special Report issued by the British Medical Association, Brit. Med. Jour., July 18th, 19 3.

[4] THE LANCET, Nov. 28th, 1903, p. 1481.

[5] Report of Special Chloroform Committee, 1892-93, Brit. Med. Jour., July 18th, 1903. The committee consisted of Dr. Barr, Dr. Dudley Buxton, Professor Dunstan, F.R.S., Mr. Vernon Harcourt, F.R.S., Sir Victor Horsley, F.R.S., Dr. MacCardie, Professor Sherrington, F.R.S., and Professor Waller, F.R.S.

[6] Journal of Physiology, vol. xxix., No. 5.

not dilatation of the vessels. That chloroform is an active protoplasm poison is now fully recognised and when an insufficient dilution occurs it seems more than probable that this toxic action comes into operation. Whether, however, long-protracted inhalation of chloroform will produce this result is unproven. Dr. LEONARD G. GUTHRIE'S very thoughtful paper,[7] in which he returns to the subject of fatty changes occurring, as he believes, in the liver after, and as a result of, the administration of chloroform, appears to support such a view especially when taken together with preceding reports supplied by BEREND, SCHENK, FRÄNKEL, BASTANIELLI, ROTH, THIEM, FISCHER, HEINTZ, COHN, BALLIN, and others. That changes of a somewhat similar nature have occurred in the epithelium of the kidney tubules is well authenticated. An additional effect of both chloroform and ether was pointed out by TUROK and in an editorial review of his work in the *Therapeutic Gazette* for June it is suggested that by depressing the vaso-motor centres the heat of the body is lowered and it is further indicated that the action of chloroform and ether upon the tissues may promote the formation of toxins causing destruction of the blood corpuscles. We are not at present prepared to accept this hypothesis and the kindred one that in a similar manner chloroform lessens the power of resistance of the tissues to bacterial invasion. The anæsthetic, if proved to have a causal result to these pathological changes, may be only the agent in so far as it depresses the general vitality of the tissues. The papers of Dr. S. CRILE[8] and Dr. J. BLUMFELD[9] on the effects of anæsthetics in producing shock are of value. Dr. CRILE'S careful study seems to indicate that surgical shock is the expression of exhaustion of the vaso motor centre, while collapse is due to suspension of the function of the cardiac and of the vaso-motor mechanism. That chloroform, and in large quantities even ether, may cause or increase such suspension of function appears rather to make us pause before accepting the current view that these anæsthetics protect the nervous system in proportion to the depth of the narcosis. The treatment of collapse under anæsthetics has been dealt with by Dr. SAWKINS[10] in a useful paper. Morphine, by depressing the respiratory centre, is usually dangerous as a preliminary to chloroform. Strychnine, regarded by many writers (Dr. SAWKINS, Dr. VANCE, and others) as the most valuable drug in preventing and alleviating the symptoms of collapse, is by Dr. CRILE considered useless in therapeutic and dangerous in larger doses. Much has been written upon the value of adrenalin in this connexion. Dr. MANKOWSKI, who was the first, we believe, to point out its value as a vaso-motor stimulant, has been corroborated during the year by Dr. CRILE, Dr. VANCE, and others. As it is rapidly oxidised in the tissues adrenalin must be given repeatedly in small doses. Large doses are liable to stimulate the vagal inhibitory mechanism and may thus introduce a fresh peril into the situation. Dr VANCE'S excellent paper[11] deals with all the reputed methods of drug treatment for anæsthetic collapse. In spite of the case recorded[12] in which bimanual compression of the heart resuscitated the patient after complete cardiac cessation, the work of Dr. BOUREAU and Dr. GALLET shows that both from the clinical and experimental side PRUS'S method offers us little promise of use in such cases. The importance of prompt and prolonged use of artificial respiration in failure of the medullary centres during collapse is exemplified in the reports given[13] where recovery took place after one and a half hours, and[14] in which last case recovery took place after one and a half hours, even when no sign of life appeared until 55 minutes after the occurrence of collapse.

Papers dealing with the preparation and management of the patient have appeared by Professor WITZEL of Bonn who advocates lavage in post-anæsthetic vomiting, Dr. J. G. CLARK,[15] and Dr. S. J. KOPETZKY, whose experience is against the occurrence of post-ether pneumonia. A writer in *La Presse Médicale*, Sept. 16th, 1903, has drawn attention to the dangers associated with the Trendelenburg position during anæsthesia as tending to heart failure in the obese, to lung congestion and damage to atheromatous vessels. The research of DIXON and BRODIE[16] deserves notice. They find that both chloroform and ether cause a slight dilatation of the pulmonary bronchi. Dr. D. H. LINGLE'S paper[17] in which he states that oxygen, a gas which has been proved to be so valuable in perflation of the lungs of persons in anæsthetic collapse, is capable of maintaining rhythmic beats in a strip of turtle's heart for a very long time, indeed, until the muscle disintegrates, appears to show that oxygen even if not a direct antagonist to chloroform vapour at least is capable of supporting its power of carrying on its function. We can only refer to Dr. EVELT'S paper[18] which gives his method and to a practical communication on chloroform anæsthesia by Professor E. MARTIN.[19]

Ether.

Many of the papers cited above deal with this anæsthetic as well as with chloroform, but HOFMANN[20] devotes some space to the "initial anæsthesia of ether." The existence and use of this transient condition were pointed out years ago but possibly have been forgotten by many and may be useful for brief operations. In a paper by Dr. G. MORTON[21] will be found a careful study of the phenomena of ether narcosis and a thoughtful study of the pupillary variations occurring under that anæsthetic. The important subject, the Body Metabolism under Ether, is treated by Dr. H. J. PECHELL[22] but the conclusions arrived at are probably only tentative, as the factors of the problem are many, and the effects of one can hardly be accepted as determining results unless possibly coincidental variations due to diet, shock, and other causes are fully accounted for; indeed, Captain J. C. B. STATHAM, R.A.M.C.,[23] called the work of Dr. PECHELL in question on this account. In a contemporary[24] a curious and, we believe, unique accident is reported. Upon turning on the electric light near an ether inhaler the ether ignited, burning the patient's face.

Chloride of Ethyl and Bromide of Ethyl and their Mixtures.

Perhaps more work has been done during the past year upon these bodies than upon any other branch of anæsthetics. The papers of Dr. W. J. MCCARDIE,[25] Dr. C. G. CUMSTON,[26] Dr LOTHEISSON,[27] and Dr. T. D. LUKE[28] give excellent accounts of the work which has been done as well as the experience of the respective writers upon chloride of ethyl. Dr. BURNET[29] advises its use as a preliminary to chloroform. Dr. WARE[30] gave his experience of 1000 cases and places the death-rate at 1 in 15,000, although other writers form an even more favourable estimate. He regards the anæsthetic as satisfactory in 95 per cent. of cases. Certainly the causation of the deaths recorded by SOULIER, KOCHER, SEITZ, and BOSSART, with perhaps the exception of the first named,

[7] THE LANCET, July 4th, 1903, p. 10.
[8] Boston Medical and Surgical Journal, March 5th, 1903.
[9] THE LANCET, Feb. 21st, 1903, p. 522.
[10] Australasian Medical Journal, January, 1903.
[11] Australasian Medical Gazette, April 20th, 1903.
[12] Boston Medical and Surgical Journal, Nov. 5th, 1903.
[13] THE LANCET, May 16th, 1903, p. 1367.
[14] Brit. Med. Jour., June 20th, 1903.
[15] Therapeutical Gazette, May, 1903.
[16] Journal of Physiology, vol. xxix., No. 2.
[17] Philadelphia Medical Journal, December, 1903.
[18] Münchener Medicinische Wochenschrift, December, 1903.
[19] Therapeutical Gazette, May, 1903.
[20] Centralblatt für Chirurgie, No. 17.
[21] Therapeutical Gazette, August, 1903.
[22] Brit. Med. Jour., June 20th, 1903.
[23] Ibid., July 4th, 1903.
[24] Philadelphia Medical Journal, May 2nd, 1903.
[25] THE LANCET, April 4th, 1903, p. 962.
[26] Boston Medical and Surgical Journal, Jan. 1st, 1903.
[27] Centralblatt für Chirurgie, No. 20.
[28] Edinburgh Medical Journal, November, 1903.
[29] Medical Press and Circular, Dec. 10th, 1903.
[30] Journal of the American Medical Association, November, 1892.

cannot without more evidence be assigned to the method employed. In the columns of THE LANCET also have appeared papers by Dr. T. EASTHAM (April 18th, p. 1091) on Bichloride of Methyl Ethylene ("Narcotile"), by Mr. W. FOSTER CROSS (April 25th, p. 1168), by Mr. R. H. JOCELYN SWAN (June 13th, p. 1677), by Mr. VERNON KNOWLES (August 1st, p. 323), and a letter by Mr. W. B. SECRETAN (August 15th, p. 496), on the mixture of methyl chloride with the bromide and chloride of ethyl, the so-called "somnoform." Several papers have appeared in this country—notably Dr. W. R. HUGGARD'S paper in THE LANCET of Sept. 12th, p. 745—and abroad in which chloride and bromide of ethyl are advocated as preliminary to ether and the consensus of opinion appears to be in favour of the plan. Mr. SYDNEY COLE has worked out with some care the physiological actions of somnoform and bromide of ethyl (a brief note of his research will be found in the Proceedings of the Physiological Society, May 16th). Both Professor VON WINCKEL[31] and Dr. BURCKHARDT[32] have tried SCHLEICH'S suggested mixture of ethyl chloride, chloroform, and ether but have returned to the use of chloroform as a more satisfactory anæsthetic. The general view of chloride of ethyl is in its favour for short operations. The views entertained by various writers differ as to after-effects and the best means of giving the drug, some referring to it as being free from all unpleasant sequelæ, others giving vomiting and headache as frequent results. We must clearly wait for further experience before deciding upon the merits of the body as a rival to nitrous oxide gas; we also require further trustworthy work upon the physiological side.

Local Anæsthesia.

Dr STRUTHERS[33] (Leith) has during the year employed OBERST'S method of local analgesia with success, limiting its use to minor operations on the digits. It should be remembered that although OBERST employed cocaine the β-eucaine may be sub-tituted. This method is one closely resembling that of CORNING: the circulation is stopped and the anæsthetic is injected into the tissues but not into the nerve sheaths, as practised by SCHLEICH. The obvious objection to this method when it is desired to render analgesic areas the circulation of which cannot be checked is met in Mr. A. E. BARKER'S method,[34] in which the region is made ischæmic by the employment of adrenalin. He adopts a solution made as follows: β eucaine, 0·2 gramme; sodium chloride, 0·8 gramme in 100 cubic centimetres of boiled sterilised water; and 0·001 gramme of adrenalin chloride. This gives 1 in 500 eucaine and 1 in 100,000 adrenalin chloride. After 20 minutes the area into which the solution is injected becomes blanched and analgesic and is said to remain insensitive for two hours. Mr. BARKER has performed such operations as BASSINI'S for radical cure of hernia, the relief of varicose veins, and so on, and in the majority of cases without discomfort to the patient.

Subarachnoid Cocainisation.

Dr. ERNEST G. MARK has contributed a useful paper on the Present State of Spinal Subarachnoid Cocainisation.[35] He has collected 2000 European cases with six deaths, recorded by TUFFIER, GORLAD, JONNESCO, DUMONT, JULLIARD and HEUMBERG (each one death), the last-named being due to the puncture of the spinal veins in the cauda equina. Dr. MARK, who is an enthusiast for the method, doubts whether all the deaths reported were in fact due to cocaine intoxication. In America one death occurred in MORTON'S practice but Dr. MARK doubts whether it was due to cocaine. GUMPRECHT reports 17 deaths following upon lumbar puncture for diagnostic purposes from the practices of QUINCKE, FÜRBRINGER, LENHARTZ, LICHTHEISEN, KRONIG, BULL, and GUMPECHT himself. MORTON regards these as due to shock, that is, to disturbance of the vital centres owing to the withdrawal of spinal fluid. In response to inquiries Dr. MARK finds many surgeons still use the method. He expresses a personal inclination in favour of tropacocaine instead of cocaine, eucaine or β-eucaine being unsuitable for spinal injection. ZOZLOWSKI'S method, the aim of which is to obviate the irritant action of the cocaine in water solution by employing tropacocaine in lieu of cocaine and dissolving it in cerebro spinal fluid freshly removed from the subarachnoid space, has been adopted with satisfactory results by GUINARD[36] and appears an advance in the method of subarachnoid cocainisation—a method which most observers seem to regard as a somewhat hazardous procedure and one only justified in the most exceptional cases. The plan advocated by BLOS and originated by SCHNEIDEREIN of injecting morphine with scopolamine has upon fairly extensive trial been found wanting. SCHICKLBERGER[37] has made some careful observations upon this method. It consists in injections of one centigramme of morphine and 1·2 milligrammes of scopolamine hydrochlorate four, two, and one and a half hours before the operation. Even in sleep so much restlessness was present as to interfere with the surgeon. BLOS admits that a preliminary trial in each case is necessary and WILD[38] has met with grave symptoms. In one case the patient's life was for a time threatened, while in the large proportion of his cases he had finally to resort to ether to obtain a sufficient restful narcosis for surgical procedure.

In conclusion we may note that the year has produced much that is valuable and has advanced our knowledge of both the theory and the practice of anæsthesia.

THE MIRROR OF HOSPITAL PRACTICE.

Among the numerous cases appearing in the Mirror of Hospital Practice there have been many of exceptional interest.

Post-operative Dilatation of the Stomach.

Post-operative dilatation of the stomach in any marked extent is decidedly rare though it is not improbable that some slight degree of this condition is of fairly common occurrence when an operation wound becomes infected. The presence of gastric dilatation may account for the benefit which results from washing out the stomach in some cases in which distension and vomiting occur after operations on the abdomen. An example of very marked dilatation of the stomach and intestines occurred at St. Thomas's Hospital in a patient under the care of Dr. C. R. BOX and Mr. W. H. BATTLE. The patient, a woman, was admitted for the removal of a large ovarian tumour. A few days after the operation an abscess developed in the left iliac region, superficial to the aponeurosis of the external oblique. The abdomen became greatly distended and the gastric dilatation was so great that it reached down to the level of the iliac crests. By gastric lavage, hypodermic injections of strychnine, positional treatment, and the application of electricity she gradually improved, though many adverse symptoms appeared. There can be no doubt that the rapid and extreme dilatation of the stomach was due to the infection of the wound and was brought about by the action of toxins. Another somewhat similar case was reported from the Kent County Asylum where the patient was under the care of Dr. F. W. STEWART. A man, 55 years of age, suffering from epilepsy, developed an acute ischio-rectal abscess; this was opened and scraped and for ten days all went well. Then he complained of severe abdominal pain and the

[31] Münchener Medicinische Wochenschrift, Jan. 6th.
[32] Centralblatt für Gynäkologie, April 4th.
[33] Medical Press, Sept. 9th, 1903.
[34] THE LANCET, July 25th, 1903, p. 203.
[35] New York Medical Journal and Philadelphia Medical Journal, Oct. 31st, 1903.
[36] Therapeutic Gazette, April, 1903.
[37] Wiener Klinische Wochenschrift, Dec. 13th.
[38] Berliner Klinische Wochenschrift, March 2nd, 1903

abdomen began to enlarge and in spite of treatment he died two days later. At the necropsy it was found that the stomach would hold 10½ pints, the walls being very thin and pale. In this case it is probable that the acute dilatation of the stomach was etiologically connected with the microbic infection of the perineum.

Chylous Ascites.

An example of the very rare condition chylous ascites was admitted into the Manchester Union Hospital under the care of Mr. ARTHUR H. BURGESS. In all 27 pints of a milky fluid were removed from the peritoneal cavity. The patient died and at the necropsy a carcinoma was found, starting in the head of the pancreas and involving the commencement of the thoracic duct and a small portion of the wall of the inferior vena cava.

Strangulated Hernia in association with Hæmorrhagic Pancreatitis.

The association of a strangulated hernia and acute hæmorrhagic pancreatitis must be very rare. Such a case was under the care of Mr. W. H. BROWN in the Leeds Infirmary. The patient was a man, 60 years of age, who was admitted for severe pain in the lower part of the abdomen with vomiting and constipation. On the right side was an irreducible inguinal hernia and this was operated on, the bowel being found deeply congested but not gangrenous. The intestine was returned but the patient died 24 hours later, the vomiting persisting to the end. At the post-mortem examination the head of the pancreas was seen to be very dark in colour and friable and on its upper surface was a greyish slough. In the lesser sac was a large quantity of curdy fluid resembling pus and the foramen of Winslow was closed.

Ulcerative Colitis.

Ulcerative colitis, not dysenteric in origin, is certainly rare and therefore a case in the Great Northern Central Hospital under the care of Dr. H. W. SYERS is of interest. The patient was a married woman, 29 years of age, who about a month before admission began to suffer from troublesome diarrhœa accompanied by loss of flesh and strength. The diarrhœa continued in the hospital and about three weeks after admission she was suddenly attacked with a great increase of abdominal pain, perforation having occurred. She died a week later. At the necropsy the large intestine was found to be extensively ulcerated and in the ascending colon was a perforation.

"Trifid" Stomach.

The hour-glass stomach is now known to be by no means so great a rarity as was at one time imagined, but a stomach with a double constriction, a "trifid" stomach, is certainly extremely rare. The first example of this condition seems to have been described by Mr. A. W. MAYO ROBSON and the second was under the care of Mr. B. G. A. MOYNIHAN in Leeds General Infirmary. The patient was a woman, 27 years of age, who nine years previously had apparently suffered from a gastric ulcer with pain after food and vomiting. Similar attacks had occurred at intervals and she suffered constantly from "indigestion." A diagnosis of hour-glass stomach was made and when the abdomen was opened it was found that two constrictions of the stomach were present. Gastro-gastrostomy was performed between the first and second sacs, the second pouch was united to the jejunum by a posterior gastro-enterostomy, and the constriction between the second and the third pouches was digitally dilated. The patient's recovery was without incident.

Ectopic Gestation.

It is very rare to meet with a twin pregnancy in which one fœtus is in the uterine cavity while the other is ectopically situated. An instance of this rare association has been under the care of Dr. JOHN H. GALTON in the Norwood Cottage Hospital. Rupture of the ectopic gestation apparently occurred about the fourteenth week. A laparotomy was performed and the ectopic fœtus was removed with much blood clot. The patient died six days after the operation.

Dr. D. LLOYD ROBERTS had a case in St. Mary's Hospital, Manchester, in which ectopic gestation occurred. By abdominal section the ruptured right tube was removed with the ovary and the fœtus. Attached to the left tube was found a small firm tumour about one and a quarter inches long; this was taken away and on examination it was discovered to contain bone, cartilage, and some substance apparently epithelial. The mass was probably a dermoid cyst.

Purulent Pneumococcic Arthritis in Children.

The pneumococcus is now known to be responsible for many conditions other than lobar pneumonia, and an important series of five cases has been published in THE LANCET. These all occurred at the East London Hospital for Children and in each of them there was a purulent arthritis due to the action of the pneumococcus. In four of the cases the patients were infants and Mr. L. S. DUDGEON and Dr. W. P. S. BRANSON, who report the cases, maintain that the infective arthritis of infants is practically always pneumococcic in origin. Three out of the five patients died but the average mortality is probably less than this. In one of the cases the heart's blood contained the pneumococcus at the necropsy and therefore it may be said that the child died from pneumococcic septicæmia.

Toothplate in the Œsophagus.

The removal of a toothplate impacted in the œsophagus is often a matter of great difficulty. Mr. W. G. SPENCER had a patient in Westminster Hospital who had persisted in wearing a broken denture. During a meal it passed into the œsophagus and there became fixed. The plate could be grasped by forceps but could not be removed. The œsophagus was opened a short distance below the cricoid cartilage and the plate was easily extracted. The wound had almost healed when the patient left the hospital three weeks after the operation.

CHEMISTRY.

Radium.

The study of radio-activity has this year passed from a seeming importance to a very real importance which, indeed, it is difficult to estimate. Chemists who have been pursuing this line of study for years have been looked upon as merely men who were groping very much in the dark but who occasionally brought to light a phenomenon pleasing to the eye and, at most, curious. The past year, however, has witnessed perhaps the most wonderful revelation that has ever been made in chemical science. It was triumph enough to discover what lay at the root of the property of radio-activity of certain minerals, but that an element would ultimately be isolated which was not only powerfully radio-active but which maintained itself constantly at a temperature above that of its environment exceeded the wildest speculation. The discovery of radium, in fact, has brought us to a very critical period in the history of scientific thought. The discovery has attracted the students of one and all branches of science, for its remarkable properties have a widespread concern. What branch of science is not concerned with a discovery, such as this, which is calculated to throw light on the origin, constitution, and destiny of matter? Time was when the atom was regarded as the smallest conceivable particle of matter. Now we know that the atom is in itself a tiny cosmos swarming with electrified particles travelling freely with immense speed in all directions, and these particles—electrons—may either manifest themselves as matter or force. We thus come back to the conception of a primordial material, sometimes force, sometimes matter, a material which perhaps is common to, and

is the root substance of, all the many varied forms of elementary matter known to us. The discovery of radium would thus appear to have broken down the theory so long and so tenaciously held of the immutability of the forms of matter. Already in the disappearance of the emanations from radium helium has been seen to take their place, a transformation apparently directly from a manifestation of energy into matter. All things are unstable and in a state of change: it is only a matter of time. We know of the great tendency of complex substances in the organic world to break down into simpler substances, but until the discovery of radium we had little proof that similar changes were going on in the inorganic world—a decay represented by the gradual resolution of elements of higher atomic weight into elements of a lower atomic weight. We thus gain some insight into the meaning of the distribution of rare elements and of those that are of common occurrence. It is strange that the old alchemists conceived the idea of converting metals of low atomic weight into metals of high atomic weight, thus reversing the natural tendency of the noble metals to depreciate into the baser. No wonder that the study of radio-activity which has led to the discovery of radium has excited an eager expectation amongst scientific men as to the possibility of some of the great truths and mysteries of nature being soon laid bare. Full of theoretical interest as the discovery of radium is, its remarkable property of radio activity has already met with practical application in the treatment of disease, but its real value in this regard, as in the treatment of cancer and lupus, cannot yet be determined. The radio-emanations are undoubtedly powerful to produce chemical change but it remains to be seen whether they will be effective in checking the advance of a morbid process or of destroying, or of restoring to a healthy state, diseased tissue. Of the year 1903 it may be said that it was in that period that chemistry achieved one of its greatest triumphs.

Low Temperature and Biological Problems.

As with the abstruse search after radio-active bodies, so with the study of excessively low temperatures. What could be the utility of gaining low temperatures except from a purely theoretical point of view? Yet what appeared at first sight to be a study confined to mere theoretical considerations has already proved to be a source of light in biological problems and to add materially to our knowledge of the nature of disease. Thus by the application of low temperatures a mechanical trituration of every variety of cell *per se* has been accomplished and the fresh cell plasma has been obtained for the purpose of experiment. In this way moulds, yeasts, and bacteria have been reduced to a brittle state, have been crushed, and their respective cell juices have been obtained for examination. In this way the typhoid organism has been crushed and within itself has been found a toxin. We have thus to distinguish between the toxin within the cell and a toxin which is extracellular. This line of investigation is obviously calculated to help considerably in gaining an insight into the nature of disease and in discovering means by which disease may be checked or prevented.

Inorganic Ferments.

Even the distinction between an organised and an unorganised body threatens to be broken down, for a remarkable analogy has been shown to exist between the action of enzymes and of metals in the colloidal state, and so much so as to have given rise to the description of the latter as inorganic ferments. The question has actually been asked, "Are the metals living entities?" the answer to which must obviously turn on the other question, "What is life?" If the metals platinum, gold, silver, cadmium, and iridium are reduced to such a fine state of division that they remain suspended in water in the form of a solution, that is of a colloidal solution, they bring about changes when in contact with other substances which closely resemble the changes due to the action of an enzyme. Thus platinum will oxidise alcohol to acetic acid and iridium will decompose calcium formate into calcium carbonate, carbon dioxide, and hydrogen in the same way as do certain organisms. Again, colloidal solutions of the metals will invert cane sugar and also will decompose peroxide of hydrogen after the manner of the enzymes in the blood. Most remarkable of all is that this action of metals in colloidal solution is retarded by the presence of strong poisons, such as corrosive sublimate, or sulphuretted hydrogen, or of antiseptics such as iodine. As regards the explanation of this action we are at present limited to saying that finely divided metals in the colloidal state present enormously developed surfaces and that the same condition exists in the enzyme. It is said to be catalytic action, but what is catalysis?

Food Synthesis.

The food of man is, after all, but a product of synthesis the secret of which is in nature's keeping. We know perfectly well what are the elements of food but we cannot build them up to make the concrete form—that is the function of the plant and of the animal. The synthesis of food, however, is not such a remote possibility as may be imagined, for already certain food substances have been successfully built up from their elements, but it must be admitted by laborious and expensive methods which are of interest only so far theoretically and not practically. Electricity will probably prove to be a powerful synthetic agent in the future. It has already been stated that given carbon, hydrogen, and oxygen in the simple association existing in carbonic acid gas and water the current under certain conditions will bring about a rearrangement of the elements until at length carbohydrates are obtained. This achievement, however, leaves out the question of building up nitrogenous and fatty material in a similar way. The air may ultimately prove to be a profitable source of nitrogen and already by means of electricity nitrate has been prepared from it with which to fertilise the soil for plant life. It would be a strange solution of the food problem if it should prove that all that is necessary for building up all classes of reparative materials is an abundant supply of chalk, air, and water.

THE NAVAL AND MILITARY MEDICAL SERVICES.

Exceptional Features of the late War.

Considering how much the events and changes brought about in 1903 in the army and navy have been attributable to, or influenced by, the late war in South Africa, it may be well before the subject is relegated to things of the past to recapitulate a few points connected with that campaign which well deserve to be borne in mind. The war was unique, the conditions being new, quite exceptional, and such as may, and probably will, never occur again. The scene of warfare was 6000 or 7000 miles distant from this country and the force in South Africa was about four times that which had been contemplated. The medical service which, after the Egyptian war, had been greatly reduced, was only organised for 70,000 and found itself required to meet the needs of over 200,000, and the forces in South Africa were widely dispersed and separated by long distances in a difficult country where enteric fever may be said to be endemic.

Mortality Statistics of the late War.

An exhaustive paper on the Mortality Experience of the Imperial Forces during the War in South Africa—October, 1899, to May, 1902—communicated to the Institute of Actuaries by Messrs. F. SCHOOLING, F.I.A., and E. A. RUSHER, F.I.A., has been lately published. From this we learn that the annual death-rate in the late campaign was 38·7 per 1000, as compared with 50 per 1000 the average of

a number of campaigns and 70 per 1000 in the American civil war. The deaths from disease were double the number of those from wounds. In the American civil war, from 1861 to 1865, the death-rate from disease was four times that from wounds. The publication of the official narrative of the medical, surgical, and sanitary history of the war in South Africa, which is understood to be in preparation, is awaited with much interest.

1903 an Eventful Year.

The year 1903 has been full of events having a wide and important bearing upon all that concerns the defence of the empire and it has quite recently witnessed the publication of one of the most important State documents that has ever appeared in this country—namely, the Report of the Royal Commission on the Preparations for the War in South Africa, further reference to which will be made. The changes which have taken place in our public medical services it must be remembered might, but for that war, have never been undertaken at all. Their consideration would, in all probability, have been deferred on political grounds to some more fitting opportunity, to be carried out only under the pressure of some disaster or other. A glance through the pages of THE LANCET for 1903 will show that an unusually large number of questions have arisen during the past year which have a more or less direct bearing upon the maintenance of the numerical strength, health, and efficiency of our Imperial forces. The fact of the empire having just passed through a war of a magnitude such as it has not experienced for about half a century gave ample cause for reflection and we may invite attention to the thoughtful and instructive introductory address delivered by Dr. V. WARREN LOW at St. Mary's Hospital on Oct. 1st on the Relationship of the Military Medical Service to the Civil Profession.[1] The subject with which our readers are primarily and more immediately interested, however, is as to the changes which have been effected in the public medical services. As the events in South Africa were the origin and cause of these changes it was only to be expected that a beginning would be made with the Army Medical Service.

The Royal Army Medical Corps.

Following the report of Mr. BRODRICK'S War Office committee the Royal Warrant of March, 1902, for that service was published together with some new regulations which were but supplementary and complementary of that warrant. During 1903 a great deal has taken place to give effect to the reorganisation and the reforms that had been recommended and adopted, with a result which seems so far eminently satisfactory, if we may judge from the largely increased number of medical candidates who have been attracted to the service. We consequently see no reason for altering or modifying the good opinion which we expressed regarding the warrant. We said at the time of its appearance that, speaking generally, it was based upon sound lines and principles, that it introduced many new features which were urgently required, and that, taken as a whole, we thought the War Minister, the medical service, and the profession generally were to be congratulated on its appearance. We may refer our readers to the article[2] setting forth, for the information of intending candidates, the advantages introduced by the Royal Warrant. There are still several matters connected with the army, army hygiene, and the hospital service in time of war, as well as with the improvement and modernisation of many of our existing station hospitals, that need to be carefully and practically considered with a view to medical and sanitary efficiency. But as regards the Royal Army Medical Corps, what it now appears to want is rather systematic and progressive development on existing lines than any further revolutionary or organic changes. The door has been opened to professional merit and the medical officer is the master of his fate in a way and to an extent that has never before been the case. The establishment of an Army Medical College in London we regard as a very important step if for no other reason than that, in addition to the special information they are acquiring inside that institution, it places army medical officers in a position to avail themselves of all that is going on in the medical and scientific world outside it, and as an indication of the fresh spirit which has been infused into the department we may point to the issue, in realisation of a hope of many years, of the *Journal of the Royal Army Medical Corps* in July last.

The New Naval Medical Service Regulations.

Although it was but natural that in the circumstances the remodelling and improvement of the Army Medical Service should stand first in chronological order it necessarily involved that corresponding changes would have to be made in the medical service of the Royal Navy. New regulations were accordingly issued for that service and formed the subject of a leading article in THE LANCET of April 26th, 1902, p. 1193, and of some subsequent articles. In 1903 we were enabled to indicate in our Students' Number that such changes were imminent in the regulations for the Naval Medical Service as would, in our opinion, considerably improve the position of the naval medical officers. The latest regulations, in which are embodied the provisions of the Order in Council of March 24th, 1902, and August 11th, 1903, were published in THE LANCET of Sept. 12th last (*vide* pp. 774–776). This official document is of a long and elaborate description which requires to be read *in extenso* by those who intend to throw in their lot with that branch of the public service; but we may say that, speaking generally, the new regulations are regarded as satisfactory and that as far as was possible where so many differences exist between the naval and military medical services very much the same measures have been applied to both.

Indian Medical Service.

At the time of the publication of the Students' Number of THE LANCET in September last no fresh warrant for the Indian Medical Service had made its appearance, although it was, of course, well known that one had long been under contemplation and consideration at the India Office and that it might be expected to be issued shortly. That the Indian Medical Service was at the time labouring under several disadvantages and that its medical officers had some just grievances which called for notice and redress we could not doubt, and we entered into and discussed the nature of these, calling attention at the same time to a report issued by the Royal Naval and Medical Committee of the British Medical Association (*vide* THE LANCET, Sept. 5th, p. 727); the Indian Medical Service has, as our readers know, always been held in high repute and esteem by the profession at large.

A memorandum showing the alterations to be effected in the conditions of the service was forwarded to us from the India Office and appeared in THE LANCET of Oct. 3rd last (*vide* p. 973). This was followed by the publication of a new Royal Warrant for the Indian Medical Service in the *London Gazette* of Dec. 4th embodying these alterations (*vide* THE LANCET, Dec. 12th, 1903, p. 1682). That it improves the pay and position of medical officers and largely remedies some of the evils we had referred to may well be admitted, but we are still somewhat doubtful whether sufficient has been done to restore completely the confidence of the medical profession.

The reader's attention may be directed to the address recently delivered to the students of the Royal College of

[1] THE LANCET, Oct. 10th, 1903, p. 997.
[2] THE LANCET, May 23rd, 1903, p. 1469.

Surgeons in Ireland by Sir LAMBERT H. ORMSBY, President of the College, published in THE LANCET of NOV. 21st (p. 1413) for much useful information regarding the naval and military medical services and the present and prospective advantages which, in Sir LAMBERT ORMSBY'S opinion, these respectively hold out as a career in comparison with other sources of professional employment.

The Report of the Royal Commission on the late War.

In August and September last[3] the findings of the Royal Commissioners upon the preparations for the war in South Africa came under review together with the highly interesting and instructive minutes of evidence accompanying their report. Although the Commissioners stated that as the care and treatment of the sick and wounded in the South African campaign had been already reported upon by the Hospitals Commission of 1900 they saw no good reason for reopening that general question they nevertheless took much evidence and instituted a good deal of inquiry into these matters and into the *personnel* and equipment, organisation, and training of the Royal Army Medical Corps as well as into the army hospital system and that of army sanitation in the field. The report and minutes of evidence have a very wide and important bearing and form a mine of highly valuable and instructive information. We should hesitate to express anything so obviously true as that the first essential element in war is preparedness if every line in these official volumes did not show that this fact had apparently been altogether lost sight of in the late war. As to the skill of the army surgeons and the quality of the equipment the views expressed by the witnesses were somewhat divergent, but it is satisfactory to note that the testimony as to the personal zeal and devotion of the medical officers was unanimous. As regards the professional training of medical officers the fundamental difficulty is to make that training so far as possible of a practical character and to keep it at the proper standard throughout the medical officers' service career. Actual experience in the application of medical and surgical methods has a value of its own compared with which other things are of relatively little importance to the individual or to the State. If there is one subject more than another that requires to be put on a satisfactory basis it is army sanitation in the field and the sooner the requisite organisation for doing this is considered and settled the better. We are bound to hear a good deal more about the report of this Royal Commission when Parliament opens.

The Typhoid Fever of Armies.

As might have been expected, the etiology, causes, and prevention of typhoid fever in armies have continued to be the subject of keen investigation during 1903. A large mass of evidence as to the cause and spread of this fever in armies was published by the Government of the United States in a report on the epidemics which devastated the volunteer camps of the United States army in 1898. This was followed by the report embodying the results of the work of Lieutenant-Colonel R. H. FIRTH, R.A.M.C., and Major W. H. HORROCKS, R.A.M.C., in the Netley laboratory. Taking the two together they afford a striking confirmation of one another—of the results drawn from real service life corroborating those of recent laboratory and bacteriological inquiries. Owing to the outbreak of enteric fever on board the reformatory ship *Cornwall* having been attributed to infected blankets from South Africa[4] the subject of the spread of this fever had also acquired a new and practical interest. Dr. H. E. LEIGH CANNEY'S scheme for securing a pure water-supply is well known and this, as well as the results of Professor KOCH'S recent investigations into the channels of typhoid infection in the endemically infected villages along the western frontier of Germany, have been set forth in leading articles in THE LANCET of Sept. 19th (p. 831) and 26th (p. 893). It will be remembered that some time ago—in August, 1900—a commission was appointed by the Secretary of State for War consisting of Colonel J. LANE NOTTER, R.A.M.C., late professor of military hygiene at Netley, Lieutenant-Colonel D. BRUCE, R.A.M.C., and Dr. W. J. R. SIMPSON to investigate the circumstances connected with the occurrence of dysentery and enteric fever in the South African campaign. There was a good deal of delay in the presentation of their report to Parliament but it was published in August, 1903, and an article upon it appeared in this journal at the time.[5] The report of this commission is a valuable one. It is based upon the results of personal inspections and inquiries made by the different members in the course of their journeys of inspection at the seat of war. The commissioners were not, however, unanimous in their report and recommendations, Colonel NOTTER expressing his dissent on many points.

With regard to this subject of the spread of infectious disease in armies on service our readers will probably be of the same opinion as ourselves—viz., that it is essential there should be for the future a thorough organisation of an army sanitary service to meet the needs of war.

Alleged Degeneration in the National Physique.

It will be remembered that the impeachment of the national health started by Major-General Sir F. MAURICE'S article that appeared in the *Contemporary Review* in 1902 was followed by a memorandum from the Director-General of the Army Medical Service on the physical unfitness of men offering themselves for enlistment in the army. This memorandum was referred by the Government to the Royal College of Physicians of London and the Royal College of Surgeons of England and elicited replies from those bodies. In other directions also investigations were made, as by the Royal Commission on Physical Training (Scotland), and are still being carried on. Sir WILLIAM TAYLOR, Director-General of the Army Medical Service, Major-General Sir F. MAURICE, and Major-General H. C. BORRETT quite recently gave evidence before the Committee on Physical Deterioration at one of its late meetings at the offices of the Privy Council, Whitehall. The reader will find the question frequently referred to and discussed in our pages. So far as army recruits are concerned it may be safely said that a very great deal depends upon sufficient food, healthy environment, and suitable clothing combined with early and judicious physical training. The army being recruited from the people the remarks upon the alleged physical deterioration of the working classes made under the heading of Public Health have a direct military bearing.

Sleeping Sickness.

Our remarks would be very incomplete if we concluded them without some reference to the recent scientific labours of Lieutenant-Colonel D. BRUCE, R.A.M.C., Dr. D. N. NABARRO, and Captain E. D. W. GREIG, I.M.S., F.R.S., in regard to this disease and to its being caused by the entrance into the blood and cerebro-spinal fluid of a species of trypanosoma parasite, as set forth in the "further report" of the Sleeping Sickness Commission recently published by the Royal Society and to which we refer in another column.

We may well close this section of our annual summary by congratulating Brevet Colonel BRUCE on his well-earned promotion in recognition of his distinguished scientific services in connexion with his discoveries regarding the causes of Malta fever and of sleeping sickness.

PUBLIC HEALTH.

Although the year 1903 will not stand out in the history of public health as having been associated with any signal discoveries as regards European diseases it will nevertheless

[3] Vide THE LANCET, August 29th, p. 624, and Sept. 26th, p. 901.
[4] THE LANCET, May 30th, 1903, p. 1532.
[5] Vide THE LANCET, August 29th, p. 625.

be marked chronologically as one in which material advances have been made in certain directions and in which subjects of very far-reaching importance have come into prominence. Taking a broad view of our subject matter it will, we think, be conceded by all epidemiologists that the most startling theme of discussion from a public health standpoint has been that which has had concern with the alleged deterioration of our national physique, a subject which has filled many pages of our leading monthly reviews and which has led to the appointment of yet another committee.

Physical Deterioration of the Working Classes

The alleged physical deterioration of the working classes amounts to an impeachment of preventive medicine of a somewhat serious character. If it were true that notwithstanding the better housing of the people, the limitation of the hours of labour, the improved conditions under which factory and other work in carried on, the greater purity of the water which the people drink, of the food which they consume, and of the soil upon which they live, physical degeneration was proceeding apace, the whole policy of our public health administration and of our social conditions generally would need to be committed to the melting pot of searching criticism Fortunately, however, the grounds upon which the allegation is based are not such as to call for an investigation of so radical a nature, and it would appear to be not improbable that erroneous inferences have been drawn from the fact that a large proportion of the men who present themselves for enrolment in the army are from one cause or another unfitted to undertake the necessary duties and that many of those who are actually enlisted are unable, after two or three years, to meet the physical demands which are made upon their strength. It is, of course, conceivable that, in consequence of improvident marriages contracted among the "unfit," of the abstention from child-bearing on the part of the "fit," and of the increasing urban conditions under which the people live, physical decay is commencing and, as was insisted upon in the last Huxley lecture, there is need for more control and selection in the matter of reproduction. But this multiplication of the so-called "unfit" has gone on in all generations and it is going on to-day among every nation of the world. If the principles and practices of the stock-breeder and pigeon-fancier are to enter into human affairs we must endeavour to discover some means by which the reproduction of the Mongolian, the Hindoo, and the negro may be checked while that of the European may be encouraged.

In so far, however, as this country is concerned it appears that the most probable explanation of the alleged deterioration of the working classes is based upon a misconception of the facts and that, on the contrary, what we are witnessing may be merely one of the effects of the improved well-being of the people and of the greater attractions offered to the worker by civil employment If this be so the recruiting sergeant is really carrying on his work in a lower social stratum in which, by the force of circumstances, the proportion of the unfit is greater than was the case when he was appealing largely to a relatively better class. It is, too, conceivable that, although the fact is not recognised, a somewhat higher standard as regards fitness may now quite unconsciously be set and that, perhaps, more stress than formerly is being laid upon defective teeth, imperfect vision, and the like.

The circumstances which give us pause are reports such as that upon "Poverty: a Study of Town Life," by Mr. B. S. ROWNTREE, and that by Mr. CHARLES BOOTH upon the "Life and Labour of the People of London." It is, however, very difficult to reconcile the alleged deterioration of the masses with the statistical testimony, afforded by the life tables of our large cities, as to the increased expectation of life at nearly all ages, although we quite recognise that increased longevity does not necessarily imply increased vigour. It is obviously possible by adopting certain artificial conditions of living and by protecting the people against the forces which hitherto thinned their ranks to rear up a people who might at once succumb were the pristine conditions as regards environment to be reverted to. To take plants from the rigour of the outside elements and to place them in a well-regulated conservatory is not an act calculated to improve the natural vigour of the stock. But it might be contended by visionaries that our life tables hold out some hope that we may by our public health measures be approaching that "physiological old age and normal death," the advent of which METCHNIKOFF describes so eloquently in his remarkable work on "The Nature of Man" If that time ever arrives death will have no terrors, because man will then have evolved what METCHNIKOFF terms "the instinct of death," which he will embrace as eagerly as in youth he accepts the instincts of love and reproduction.

Some of these considerations will perhaps be dealt with by the committee above referred to, although it is hardly likely to inquire into what may be termed the evolutionary aspects of the problem. There is certainly need, however, that a wider view should be taken of public health than has hitherto been the case and we are interested to see that some medical officers of health are beginning to appreciate this point. We find some, for instance, speculating upon the disasters likely to accrue from the limitation of reproduction on the part of those whose types are well worthy of being perpetuated, while others are drawing attention to the effect of alcoholism in the direction of promoting tuberculosis. Some, too, are evidently anxious to re-awaken a crusade against venereal disease. But reflections such as these bring us to the second question which has bulked largely in medical and lay literature during the past year.

Pulmonary Tuberculosis.

The subject of pulmonary tuberculosis seems by virtue of its excessive incidence upon the poor and unfit to follow naturally upon the foregoing remarks. In the first number of THE LANCET for 1903 we were able to publish the prize essays in connexion with the King's Sanatorium and in our later issues we have had the satisfaction of recording the laying of the foundation-stone by HIS MAJESTY. This institution, which is being raised amid almost ideal surroundings, cannot fail to prove a lasting boon to those tuberculous subjects who occupy a station of life above that of the poor but who cannot afford the charges demanded at those private institutions at which their more fortunate fellow sufferers are able to give themselves every opportunity of continuing their labours. In the spring of the year the Milroy lectures upon Pulmonary Tuberculosis were delivered by Dr. H. TIMBRELL BULSTRODE before the Royal College of Physicians of London and these, which we published subsequently in our columns, should aid in steadying public and professional opinion upon some of the problems involved in dealing with this widespread malady. The lectures dealt largely with the epidemiological aspects of the problem and they showed how markedly the disease is declining in this and many other countries in consequence, apparently, of general hygienic measures and the improved social conditions of the people. They furnished, too, abundant evidence showing that the communicability of the disease is but slight and that to rank it *quâ* infection with the acute exanthemata is, as we have for a long time held, an altogether distorted view to take of the situation.

The Royal Commission which is considering the relation of bovine to human tuberculosis has not yet reported but during the year numerous experiments have been conducted in this country and elsewhere which tend to show that the results

obtained by KOCH and SCHUTZ are not constant accompaniments of experiments of this nature. Human tuberculosis is obviously transmissible to bovines in certain circumstances and it remains for the Royal Commission to tell us with what facility, if at all, bovine tuberculosis is transmissible to the human adult or infant. But in the meantime there has come over from Germany a pronouncement from BEHRING which is almost as startling as was that made in 1901 by KOCH and which is, moreover, its almost direct antithesis. BEHRING and his pupils have performed a series of experiments which they claim tend to show that the intestinal tract of young animals and, inferentially, of infants is of such permeability as to allow organisms to pass through with far greater facility than is the case with adults, and, briefly stated, BEHRING'S thesis is to the effect that the bacillus of tuberculosis is acquired during infancy and that the disease remains potential until the environment or circumstances of the host enable the parasite to multiply and to produce the active disease known as tuberculosis. In support of his thesis BEHRING refers to the widespread presence of tuberculosis as evidenced by post-mortem examinations, and more especially does he lay stress upon the figures published by NAEGELI who claims to have found signs of tuberculosis in the bodies of all persons over 30 years of age. BEHRING also apparently draws attention to the alleged fact that no fewer than 68 per cent. of the men of an Austrian regiment who were inoculated with tuberculin reacted thereto. In BEHRING'S view the communicability of pulmonary tuberculosis from person to person has not been satisfactorily demonstrated and he would presumably explain instances of alleged infection by the thesis that persons thought to have been infected were living in circumstances which rendered them susceptible to the parasites which they had harboured since their early infancy. BEHRING has also been endeavouring to discover a method of preventive inoculation against tuberculosis in order that sanatoriums and other direct measures may not in future be required. In Paris we hear of Dr. MARMOREK resigning his post at the Pasteur Institute in order the more fully to pursue his investigations relating to what he regards as the true toxin of the tubercle bacillus. From the antitoxin which he procured from a horse treated with this toxin Dr. MARMOREK hopes to be able to establish a serum treatment of tuberculosis. The latest news from Paris is not, however, by any means encouraging.

As regards other preventive measures taken during 1903 we may add that the voluntary notification of pulmonary tuberculosis has been adopted by additional sanitary authorities and that Sheffield has, under a local Act, succeeded in obtaining powers from Parliament to render it compulsorily notifiable. It is, however, important to point out that this disease is not added to those comprised in the Notification Act and that the subjects of pulmonary tuberculosis are expressly exempted from the disabilities imposed upon those suffering from the acute exanthemata. It is this difference of treatment for which we have already contended in our columns. Much progress has been made in the erection of public sanatoriums. Cumberland is erecting an institution near Keswick; the three counties of Gloucestershire, Somersetshire, and Wiltshire are providing a similar institution at Winsley near Bath, while Devonshire, with Cornwall, has secured a building at Brent. In a recent issue we drew attention to a new departure as regards district councils and sanatoriums, and in a leading article in THE LANCET of Nov. 21st, p. 1444, we discussed the proposal to convert one of the Metropolitan Asylums Board fever hospitals into a sanatorium. The Board has decided that a step of this nature would form such a far-reaching departure that it must ask for an expression of opinion on the part of the Local Government Board. Mr. LONG will doubtless go very thoroughly into the question.

The Control of Midwives.

The reduction of the mortality both of mothers and infants which is consequent upon complications of childbirth is a matter which clearly comes within the province of preventive medicine; therefore any progress made in the administration of the Midwives Act of 1902, which came into force on April 1st of the year under review, is, assuming always that the Act is a good one, a matter for congratulation.

Up to the present, however, attention has been directed mainly to the formation of the Central Midwives Board and to the framing of rules by such Board. The local supervising authorities have not been idle and there are indications that the county councils and county borough councils throughout the country are seriously setting to work to make the best they can of the measure. It would seem that there is practically unanimous agreement among county councils not to delegate their powers to the local district councils, and in cases where a county medical officer of health has been appointed administration by a committee of the county council would appear to offer the best chances of success, at any rate in the first instance. But in counties where there is no such medical officer of health questions may arise of appointing a medical officer *ad hoc* or of delegating the powers to local authorities with expert advice at their disposal.

The measures which are now being taken for the control of midwives may, we trust, in the future be also turned to good account in the direction of lessening what is perhaps the most serious blot upon all our preventive measures and that is the persistence of infantile diarrhœa. It is to be hoped that as there rises up a better educated class of midwives they will be able to introduce into the homes and habits of the poor better notions of that elementary cleanliness which is so inextricably bound up with the health of infants. And in this matter of the improved well-being of children the question of

Physical Training and the Teaching of Hygiene in Schools

calls for comment. This subject has received considerable notice both in the medical and the lay press during 1903 and we are glad also to note that an increasing number of medical officers of health refer to the subject in their annual reports. All will, we feel sure, agree with the report of the Royal Commission on Physical Training (Scotland) that "the education cannot be based on sound principles which neglects the training and development of the bodily powers."

In our view the teaching of elementary hygiene in our public schools, the periodical examination of the children, and a well-organised system of physical drill carried out, not in dusty schoolrooms but either outside or in special buildings, will tend to promote national physical fitness, the decline of pulmonary tuberculosis, and the improved well-being of the people to a greater extent than any special legislation directed against tuberculosis is likely to effect. In this direction the School Board for London under its medical officer's guidance is setting an example which, if expanded and followed, will merit the lasting gratitude of future generations. County councils throughout the country have now an excellent opportunity of manifesting their appreciation of the confidence which the nation has shown in them in intrusting them with the education, mental and physical, of her children.

The Control of our Foods and Drinks.

It is a matter of regret to all those interested in the better control of our food-supply as regards purity and wholesomeness that the recommendations made by the Food Preservatives Committee as to the material expansion of our present machinery for controlling the preparation and preservation of foods have not yet been acted upon. A considerable time has now elapsed since the report was issued and, so far as we are aware, nothing but approval has been

expressed with regard to the recommendations which it contained. But there is hope that the year 1904 will see progress in this direction. We have recently drawn attention in our columns to the exhaustive report of the Royal Commission on Arsenical Poisoning and, as our readers will have observed, the recommendations made by that Commission are very much on the same lines as those made by the Food Preservatives Committee. This being so Mr. LONG should have no difficulty whatever in framing a measure which in principle would embody the recommendations of both these bodies. The report on arsenical poisoning again accentuates the pressing need which obtains at the present time for more supervision over the processes of manufacture of food and drink. Neither the chemist nor the bacteriologist can tell us for certain of the unwholesome conditions under which certain processes are carried on, or of the, at present, largely unknown ingredients which are used in the preparation of some of our foods. The report on the purity of aerated water which was made in 1903 to the London County Council by its senior assistant medical officer of health is an opportune illustration of the dangers which obtain in the preparation of foods and drinks not subject to proper control. To ask for a demonstration of injury when the risks are so patent is in no sense preventive medicine and although in the matter of the elimination of arsenic much good work has already been voluntarily effected any appearance of slackness or want of initiation on the part of our law makers is likely to create a very erroneous conception of the true state of affairs.

The Treatment and Disposal of Sewage.

The Royal Commission which is considering this subject has during 1903 issued its third report which dealt with trade effluent and the formation of a new central authority, but at present the recommendations of the Commission have not been given legislative effect. It is, we believe, probable that the Commission will shortly issue another report dealing with the steps which should be taken to put an end, so far as practicable, to the risks which at present attend the consumption of certain shell-fish, and possibly Mr. LONG is awaiting the advent of this fourth report in order to embody its recommendations in his Bill.

Small-pox and Vaccination.

The lesson of 1903 is such an old and oft-repeated one that reiteration of it approaches boredom but in certain particulars the year has left its records upon epidemiology. The anomalous form of small-pox which appeared recently in Trinidad has now manifested itself in this country and instances of it have been seen at Cambridge and elsewhere. These "sports" of nature, if such they can be termed, teach us several things. In the first place they show us that a disease may at times present itself in such an anomalous garb as to render diagnosis extremely difficult even by experts, and in this sense the importance of the general protection of the population by vaccination and revaccination is accentuated. But such anomalous cases also point to the desirability of always treating suspicious cases as if they were small-pox and of seeing multiple cases of the prevailing ailment before venturing to deny that the disease in question may not in the end prove to be the dreaded malady. If a sufficient number of cases are seen diagnosis would present fewer difficulties.

Another year has passed and Parliament has again evaded consideration of the vaccination problem. Despite the efforts of the Imperial Vaccination League and of other bodies, and notwithstanding the greater eloquence of the presence of small-pox in our midst, there is a hesitancy on the part of the legislature to face the needs of the situation and to introduce a Bill providing for general revaccination. The term "compulsion" would seem to make the modern legislator turn pale with fear and when the subject of vaccination arises in the House of Commons many of those who are ostensibly upholders of vaccination are either absent or mute. An excellent illustration of this aphasic condition was afforded in the House of Commons when Mr. CHAPLIN was introducing the present Vaccination Act. But in these days the term "compulsion" as applied to vaccination is surely a misnomer and there should be no difficulty in passing a measure which proposed to place general revaccination upon the same basis, *quâ* compulsion, as primary vaccination. But be this as it may, it devolves upon the recording angel of 1903 to write down the fact that in place of the bread of revaccination Mr. LONG has given us the stone of an inquiry into the cost of applying the present very imperfect measure.

EXOTIC AND TROPICAL DISEASES.

The harvest of our knowledge with respect to tropical and other exotic diseases has been an abundant one for many years past and the record of 1903 has well maintained the average.

The International Sanitary Conference which held its inaugural meeting in Paris on Oct. 10th terminated its labours on Dec. 3rd by signing the new International Convention and although certain of the smaller Powers abstained at that date from giving their formal adherence to the document it is very satisfactory to note that the Convention has already been signed by eight more Powers than has been the case with any other previous Convention. Generally speaking, the measure has to be regarded as a sort of consolidation and amendment act into which there has been introduced certain provisions and modifications justified and rendered necessary by the advance of our knowledge as to the epidemiology of plague and cholera. The two most important new departures consist, firstly, in the reduction of the period of detention of infected vessels from 12 to seven days, a concession which will be hailed with satisfaction by every shipping company and all travellers; and, secondly, the application, as regards plague, of destructive measures to rats. The destruction of these vermin in infected vessels is to be carried out as rapidly as possible before or after the cargo is unloaded and no damage to merchandise on the ship is to result from the process. This will rather tax both the ingenuity and the present resources of some of our port sanitary authorities, more especially the smaller ones. Throughout the whole Convention there breathes a very liberal spirit and much is left to the discretion of sanitary authorities. We in England have long since ceased to lose our heads when a case of exotic disease arrives at one of our ports and it is gratifying to notice that the same spirit is gradually pervading other countries. The crux of the future is to procure the intelligent coöperation of Turkey, of Eastern countries generally, and of our own colonies.

Plague

The spread of cancer and the pathology of sleeping sickness are both topics of the first interest to the sanitarian, but we have already discussed these topics, as also leprosy, under another heading. A brief allusion has been made, too, to the prevalence of plague, but this is a matter on which more may be said.

We hoped to have been able at the end of 1903 to record a diminution in the amount of plague distributed throughout the world but unhappily we are unable to do so, for in India the malady has raged more severely than in any previous year. The total cases and deaths from plague in India during 1902 were respectively 765 172 and 575 469; the figures for the period up to mid November, 1903, reached the enormous total of upwards of a million cases and 740,000 deaths. In China the chief maritime towns have continued to suffer as well as the adjacent districts but owing to the absence of proper records it is impossible to form any

approximate estimate of the extent to which the disease has spread in the Chinese empire. We know, however, that Hong-Kong, Canton, Amoy, Foochow, Shanghai, Peitang, Tientsin, Inkou, and Newchwang have all had their local epidemics. From Hong-Kong, where alone it has been possible to get trustworthy reports, we hear that the annual epidemic has been more virulent than that of last year, notwithstanding the efforts made by the local authorities to prevent its spread. Japan with its many ports has also suffered, chiefly from imported infection, Tokio, Nagasaki, and Yokohama all yielding cases. Formosa, too, has suffered but not so much as in 1902. In the Philippines, especially in Manila, plague again made its appearance but the epidemic was of smaller proportions than in the previous year. In the Straits Settlements, Siam, French Indo-China, and New Caledonia plague has shown itself, though the outbreaks have not been of any great dimensions. In Australia plague has cropped up in various localities, as, for example, at Fremantle and Perth in Western Australia and at Brisbane, Rockhampton, Bundaberg, and Townsville in Queensland. In Sydney (New South Wales) a plague epidemic almost entirely confined to rats and mice developed in the summer. A German ship from the River Plate also arrived at Sydney in August with a large number of plague-infected rats but no extension of the infection from rat to man appears to have taken place. In the Hawaiian Islands, chiefly at Honolulu, scattered cases of plague were reported during the year. Plague has continued to occur in isolated cases at San Francisco, where up to November some 17 cases, all fatal, had been bacteriologically confirmed. The fact that only fatal cases were heard of excites some suspicion that possibly the Chinese population in San Francisco were concealing the milder cases and only allowing the evidently fatal cases to come under the observation of the sanitary authority when it was no longer possible to conceal them. From San Francisco the infection was carried by ship to Mazatlan in Mexico and from this place it extended to Ensenada and other Mexican localities. Gradually the infection was conveyed southwards to Peru, where Callao, Pisco, Mollendo, Pascamayo, and Lima yielded cases. Chile also was invaded, Iquique, Valparaiso, Pisagua, Talcahuano, and some outlying villages in the vicinity of Concepcion becoming infected by plague. Brazil, it may be remembered, was first invaded by plague in 1899 and since then has had plague outbreaks in each year. During the early months of 1903 the disease was epidemic in Rio de Janeiro with some severity and later Rio Grande do Sul was also invaded. Towards the end of the year plague was again reported to have become epidemic in Rio de Janeiro and to have also broken out at Para in Northern Brazil. No cases of plague appear to have been recognised during 1903 in Argentina, Paraguay, or Uruguay.

In South Africa plague lingers but seemingly without making much progress. In Cape Colony cases of plague occurred during 1903 in isolated groups or single cases at Port Elizabeth, where rats were also infected, but there was no real epidemic. Cases, occurring also in scattered fashion, were reported at King William's Town, Graaf Reinet, East London, Graham-stown, Burghersdorp, Queenstown, and Knysna. Plague, affecting rats and mice only and also in some instances cats, was observed in the Cathcart district, at Stockerstrom, and at Riversdale. At Table Bay five cases of plague occurred on board a ship which had come from Bombay and had called at certain East African ports. In Natal plague broke out in December, 1902, and became to some extent epidemic in certain parts of the town of Durban during the spring and summer months. The infection was carried later to Maritzburg and to some outlying places in the districts of Eshowe and Inanda. The epidemic died down in the summer and no cases were reported in Durban after August. During July there were observed in the Transvaal at Johannesburg some very suspicious cases of illness with buboes, but on bacteriological authority the disease was declared to be due to a pneumococcic infection. Some suspected cases of plague were reported in Mozambique early in the year. For the fifth year in succession Mauritius suffered from a plague epidemic which was of greater severity than that of 1902.

In Algeria some suspected cases of plague occurred at Blida in September but no report on the cases has, so far as is known, been made public. In Egypt plague seems to have smouldered but never became epidemic. Only 125 cases were reported from Alexandria in a population of over 300,000. Some 33 cases were referred to Port Said and 27 to Damietta. Small groups of cases were also reported in certain of the Egyptian provinces. There was no outbreak of plague in the Mahomedan Holy Land during 1903. Some cases occurred in Assyr in Arabia which is regarded as a plague endemic area. In the Bahrein group of islands in the Persian Gulf a sharp outbreak occurred, the disease proving fatal, it is said, to upwards of 1000 of the inhabitants. Statements have also been published that plague was epidemic during the spring of 1902 in the Persian district of Hawizeh.

Notwithstanding the widespread diffusion of plague throughout the world Europe almost entirely escaped the infection. A small outbreak, however, occurred at Marseilles in September among the workers in a paper factory, the disease having been originated, it is stated, by the handling of infected rags. The precise number of attacks and deaths has not been definitely made known but it is asserted by some that at least 15 persons were attacked and that at least six of them died. Fortunately the infection was quickly subdued and no extension took place in Marseilles or from that city to any other locality. A small outbreak, comprising two cases, occurred at Berlin in June, the first person attacked being a young Austrian medical man who had been making plague cultures in the laboratory of the Berlin Infectious Diseases Institute and who had accidentally inoculated himself. He communicated the disease to one of the attendants who waited upon him during his fatal illness. A small outbreak occurred at Rhodes, comprising three cases on board a sailing vessel from Alexandria in September. There were some scattered groups of cases of plague at certain places in Syria and Asia Minor but no epidemics followed.

No known case of plague occurred in the British Islands during 1903, either indigenous or imported. Only one inland case of suspected plague was heard of during 1903 but bacteriological investigation at once disproved the diagnosis of plague. A few ships having on board single cases of illness that were thought to be possibly of the nature of plague came under the notice of port sanitary authorities during 1903 but in not a single instance was the ailment found to be plague when investigated bacterioscopically. So far as Europe is concerned 1903 must be regarded as an uneventful year as regards plague save in respect to the Convention which, as we have already said, was signed in Paris.

Cholera.

During 1903 cholera continued to manifest itself in the East with considerable virulence but fortunately did not establish a footing in Europe. At the beginning of the year the disease was fast disappearing from Egypt, where it had been raging in the latter months of 1902. Less than 100 cases of cholera occurred in Egypt during the early part of 1903, these cases being as it were the expiring embers of the 1902 conflagration which had carried off nearly 35,000 persons in Egypt. Happily, notwithstanding the grave apprehensions entertained by some persons, there was no recrudescence of cholera in Egypt or in the Mahomedan Holy Land during the summer and autumn months of 1903.

But in Syria and Palestine, where cholera had spread from Egypt late in 1902, the disease made considerable ravages and though up to midsummer upwards of 6500 cases had been officially reported this number does not represent by any means the true local incidence of the disease. Resident Europeans have furnished ample evidence of the concealment of cases not only by the natives but by the Turkish officials themselves. Cholera spreading from the south of Palestine gradually extended through the vilayet of Damascus and northwards and westwards to the vilayets of Aleppo, Adana, and Diarbekir, threatening Asia Minor and Mesopotamia. The spread of cholera from Egypt by way of Palestine and Syria to Asia Minor and Mesopotamia is most unusual. It is probable that the construction of railways in Syria and Palestine may have had some effect in determining the direction of the spread of cholera by hitherto unreported routes.

Much consternation was caused in January by the arrival at Malta of a cholera-infected British ship from Alexandria. Altogether nine cases and three deaths occurred during the passage to Malta or after detention at the Maltese quarantine station on Comino Island. After landing the sick and after disinfection had been carried out the ship sailed for the Thames, where after the usual precautions had been taken the vessel was admitted into the London Docks.

In India cholera has, as usual, displayed considerable virulence. The complete records are not yet to hand but in Bengal alone over 143,000 deaths had been certified during the first seven months of the year. Among the Europeans who suffered were 25 men of the 2nd Shropshire Regiment, of whom 17 died. The United Provinces of Agra and Oudh also lost over 30,000 of the population from cholera during the same period. In the autumn of the year Afghanistan was invaded by the disease which became epidemic in Kabul and Kandahar. In French Indo-China cholera was prevalent from March to June. Early in the year there was an outbreak at Bangkok, the capital of Siam. There were also minor outbreaks in the Straits Settlements and the Dutch East Indies. A considerable epidemic occurred in the Philippine islands, over 20,000 cases and about 15,000 deaths being reported up to the middle of September. Specific pollution of public and private water-supplies provided the means for wide and rapid diffusion of the disease. From China, although the sources of information are limited, we learn that cholera was present during 1903 at a number of important seaport towns as well as in the interior—Hong-Kong, Canton, Amoy, Shanghai, Hankow, Chefoo, Tientsin, and Peitang (at the last place it is said that 2000 deaths occurred in two months). In Japan a number of localities were invaded by cholera but no large epidemic appears to have supervened. Among the places from which cases of cholera were reported may be mentioned Nagasaki, Saga, Tokio, Fukuoka, Kobe, and Yokohama. Several cases of cholera occurred on board a Russian man-of-war while in Nagasaki harbour.

Yellow Fever.

The important revolution which has of late years taken place as regards the etiology of yellow fever and the prophylaxis of the disease and which, when fully appreciated, as at Havana, has succeeded in effectually removing the disease from the current records of mortality, gave hope that yellow fever might soon become a comparatively rare disease. This hope, however, has not been realised during 1903, for there has been a somewhat severe epidemic in Mexico and other outbreaks have occurred in Brazil, Panama, Costa Rica, Venezuela, and Ecuador. In Mexico a severe outbreak has been in progress since July, the greatest sufferer being the town of Linares, which is situated 55 miles south-east of Monterey, the capital of Nuevo Leon. In this place during August, September, and October at least 1800 cases were reported. At Monterey some 500 cases have also been noted. In Vera Cruz, from June to November, 900 cases came under observation. Two British ships became infected, probably through members of the crew contracting the contagion on shore. At Tampico yellow fever was also epidemic in the autumn months, carrying off 300 persons. An outbreak of yellow fever was reported in October from Laredo, a town of about 4000 inhabitants in the State of Texas, over 1000 attacks being recorded up to the end of November. These cases occurred chiefly among Mexicans residing in the town; an outbreak occurred at Minero and some cases were also recognised at San Antonio, the largest town in Texas, about 250 miles from Galveston, and some also at Cannel. The Central Public Health Department of the United States has made great efforts to get the different republics bordering on the Mexican Gulf to adopt the same policy as to yellow fever as has been adopted at Havana with such success, but the republics in question lag far behind the United States in their public health administration. During 1903 only three cases of yellow fever were reported from Grand Bassam, on the French Ivory Coast, West Africa.

Beri-beri.

This somewhat mysterious disease has continued to excite interest in the minds of observers during 1903. Its occurrence in certain localities and in certain ships has puzzled those who have investigated its causes and there has been considerable doubt as to the nature of the malady. The recent Norwegian Commission, over which Professor UCHERMANN presided and which inquired into the subject owing to the more frequent occurrence of beri-beri on board Norwegian ships as compared with British vessels, defined beri-beri as the oriental name for a multiple neuritis due to toxin poisoning by tainted vegetable or animal food stuffs. The vegetable form more particularly corresponds to the Asiatic variety and is principally brought on by eating bad (damaged or tainted) rice. The animal form corresponds more particularly with the beri-beri of European merchant ships and is chiefly caused by the use of tainted tinned (canned or preserved) provisions.

During January, 1903, there was an epidemic of beri-beri at Panama where, it is stated, previous epidemics have occurred which have been variously attributed (1) to the consumption of certain classes of food; (2) to a specific germ producing a toxin; or (3) to disturbance of the soil and emanations therefrom. It is said that those attacked had been living under deplorable sanitary conditions and that many of the sufferers had previously suffered from malaria. During 1903 some cases of the disease were discovered in Egypt and many cases occurred in China. The Malay Peninsula is notorious for the number of cases of beri-beri which occur there and it is interesting to know that at the present time the etiology of the disease is being scientifically investigated there as well as in India by competent experts. It remains to be mentioned that ship-borne cases of beri-beri came under the notice of several of our English port sanitary authorities during the year.

The suggested relationship of beri beri to arsenical neuritis has been discussed in its recent final report by the Royal Commission on Arsenical Poisoning but without definite conclusion, the evidence having been insufficient to establish any connexion, although in some instances traces of arsenic were found in preserved fish and other foods supplied to vessels making long voyages. It seems, however, probable that true beri-beri is altogether distinct from arsenical neuritis.

Legislative Forecast.

We venture to hope that in our next Annus Medicus we shall be able to record the promotion of the President of the Local Government Board into a Secretary of State and that the central bureau of public health will have given means (1) to amend and to consolidate the Public Health Acts;

(2) to carry into effect the recommendations of sundry commissions and committees as to the better control of our foods and drinks; and (3) to carry out the recommendations of the report of the Royal Commission on Sewage Disposal.

THE GENERAL MEDICAL COUNCIL.

The work of the General Medical Council during the past year, if we except its regular task of purging the Register of unworthy members of the profession, has centred almost entirely round the question of preliminary scientific education of the student and the attitude of certain corporations with regard to the same. At the first and regular summer session a great deal of time was taken up by penal business, none of which was of particular interest save to the persons involved. It is, however, important that the work of the Council in this direction should not be cramped. We say this because Sir WILLIAM TURNER, from the presidential chair, expressed a doubt whether the amount of money which was represented by the time occupied in the hearing of penal cases was well spent. Sir WILLIAM TURNER is an able and careful president and we do not disagree with his views, or with what are apparently his views, without feeling sure of our ground. But we are clear that nothing must be allowed to curtail the penal work of the General Medical Council, lest the Council should wear the appearance of scamping one of its most important duties or of lightly condemning medical men to professional ruin. When the proper threshing out of a penal case requires time, time must be given. It is, however, an unfortunate fact that the pecuniary position of the General Medical Council makes time of particular value. Mr. ALLEN, the registrar, has estimated the expenses of the Council at £650 for a session of two days and £175 for each day that follows. The subdivision of Victoria University will enlarge the *personnel* of the Council and the resolution of the General Medical Council to make regular inspections of the examinations conducted by the various bodies also points towards a rising expenditure. A memorandum of the inadequacy of the income of the General Medical Council is now before the Financial Relations Committee which will, we suppose, soon advise the Council what steps should be taken towards the keeping down of expenses or the raising of income.

The great and serious cost of a special session was brought home to the Council this year. The unavoidable length of time occupied in the May session by the consideration of penal cases left untouched the burning question of the preliminary education of candidates for the medical profession. A special session was accordingly arranged for July 15th, the business being the consideration by the Council of the inspector's and visitor's reports upon the examination in chemistry, physics, and biology of the Conjoint Board of England and the Society of Apothecaries of London. The special meeting lasted two days and upon full debate the points at issue resolved themselves into one—viz., the expediency of exercising the power of the Council conferred upon it by Act of Parliament of reporting to the Privy Council that the course of study and examination required by the two Colleges and by the Society were insufficient. With commendable prudence it was agreed to postpone the decision until the winter session.

The winter session opened on Nov. 24th and its time, like that of the two previous sessions, was mainly occupied with the discussion of the relations of the English corporations to the central educational authority. And although in the interests of peace it is a source of gratification that no definite conclusion has been reached—for delay may mean a harmonious arrangement of difficulties—yet procrastination in this matter cannot be indefinite, for the other business of the Council is being blocked while time is spent in discussion. Undoubtedly the exact position of the General Medical Council, the central authority in medical education, towards the universities and corporations entitled to grant degrees and qualifications for medical registration is a matter of the highest importance. It is a position that ought to be made extremely definite and that is what we think it now is. The question has undergone sufficient deliberation and it is clear to us that the General Medical Council must not be checked in its work of maintaining the standard of medical education. The present position is that the Colleges are considering the subject, with the desire to remedy all defects, so that it is to be hoped that new regulations may be formulated before the meeting of the Council in May, 1904. Open rupture has been averted but the Council has shown its determination to maintain the position it has taken up, a position which we consider is completely justified. We repeat this because, although we have not the slightest desire to curtail the privileges of old and dignified corporations we consider that the position of the General Medical Council as the central authority in medical education must not be jeopardised.

BRITISH MEDICAL ASSOCIATION.

The seventy first meeting of the British Medical Association was held at Swansea, the meeting commencing on July 28th under the presidency of Dr. THOMAS DRYSLWYN GRIFFITHS, ophthalmic surgeon to the Swansea Hospital and late physician to the Swansea Infirmary. This is the second occasion that the Association has met in Swansea, the first being 50 years ago. The President took for the subject of his address the Evolution of Antiseptic Surgery and its Influence upon the Progress and Advancement of Bacteriology and Therapeutics. The Address in Medicine on Infective and Infectious Diseases was delivered by Dr. FREDERICK T. ROBERTS and the Address in Surgery on the Evolution of Abdominal Surgery was delivered by Mr. A. W. MAYO ROBSON. The first general meeting was notable for the election of H.R.H. the PRINCE of WALES as an honorary member of the Association. The annual dinner of the Association was held on July 30th, among the oversea guests being Professor J. G. ADAMI, Professor H. SENATOR, and Professor T. GLUCK. Although accommodation was somewhat limited owing to Swansea being a small town and to the assizes clashing with the date of meeting the gathering was generally held to be most successful. We make no attempt to summarise the proceedings of the Association because, owing to the facilities courteously offered by the executive to our representatives, we have been able to report the meeting very fully in our columns. The next meeting of the Association is sure to attract a large crowd, for the venue is Oxford, the president-elect being Dr. WILLIAM COLLIER.

VARIOUS HOSPITAL FUNDS.

Owing to the growth of the population on the one hand and the strides which medical science is making on the other, each year shows a growing demand for money to supply the needs of the sick poor and to keep pace with the improved appliances which the best medical treatment demands. It is satisfactory, therefore, to know that

The Metropolitan Hospital Sunday Fund

has succeeded, under the presidency of Sir MARCUS SAMUEL, Bart., the late Lord Mayor of London, in raising the sum of £64,975 12*s.* 3*d.*, the largest amount ever collected since the inception of the Fund in 1872. Of this sum, £49,238 were collected in places of worship, showing an increase of £2907 over last year's figures. It will be remembered that their Majesties the KING and QUEEN with other members of the Royal Family attended at St. Paul's Cathedral on the Sunday preceding Hospital Sunday—namely, on June 7th—when, at the express desire of the KING, the offertory, which in spite of the unpropitious weather amounted to

£5389, was added to the amounts collected at other places of worship on Hospital Sunday. The Rev. Prebendary C. J. RIDGEWAY of Christ Church, Lancaster-gate, sent £1593; the Rev. Canon FLEMING of St. Michael's, Chester-square, £1408; and the Rev. Canon PENNEFATHER of the parish of St. Mary Abbots, Kensington, £1019. The number of contributing congregations was 62 in excess of those of last year. Mr. GEORGE HERRING, for the second time, added a quarter to the amount collected in places of worship and his generous gift amounted to £12,302. Mr. WILLIAM HERRING gave a special donation of £1000 to the collection at St. Paul's Cathedral. Among the large individual donations were one of £500 from Sir SAVILE CROSSLEY who sent a like sum to KING EDWARD'S Fund, one of £500 from "S. L., In Memoriam," and "Delta" sent a twenty-fifth donation of £200. The number of institutions which participated in the awards of the Fund was 209. The success which attended the Metropolitan Hospital Sunday Fund was not so fully shared by

King Edward's Hospital Fund for London,

for at a meeting of the General Council of the Fund held at Marlborough House on Dec. 15th the PRINCE OF WALES announced that the hopes which he had entertained at a similar meeting 12 months ago—namely, that another £10,000 a year would be forthcoming—had not been fulfilled. As, however, the financial year of the Fund has not yet ended it is to be hoped that some further substantial contributions may be announced at the final meeting. In order that the amount available for distribution might equal that of 1902—namely, £100,000—it was decided to draw upon the reserve funds. The amount received up to Dec. 10th was £71,033, to which the League of Mercy has added £10,000, this being £2000 more than it gave last year. The trustees of the London parochial charities have given £1000 for convalescent homes. A great part of the work of the KING'S Fund has been an endeavour to reopen beds which have been closed owing to want of means on the part of the hospitals, and since the Fund was started 443 beds have been made again available for patients. Ten beds have been reopened this year. A sum of £10,500 has been set apart for the purpose of assisting small special hospitals to amalgamate. A list of awards will be found on page 1831 of our present issue. Steady progress has been made by

The Metropolitan Hospital Saturday Fund,

the income to Dec. 12th being £16,628, as compared with £16,412 on the corresponding date of last year. It is interesting to note the progress that the Fund has made since the abolition of the street collection in 1897. In that year £20,138 were collected, including £3330 from street boxes. The authorities state that the Fund has now more than recovered the loss incurred by the abolition of the street collection and has distinctly increased in public favour. The main income of the Fund is derived from the penny-a-week collections in the workshops and places of business in London. This is steadily maintained notwithstanding the many other claims which are made upon the small resources of the workers. A special department has been created for the supply of surgical appliances upon payment by the patients of over 50 per cent. of the net cost. More than 3600 instruments are annually provided by this department under the supervision of a special committee assisted by competent surgeons and fitters. Towards the cost of these appliances the patients contribute over £2000. Special arrangements are also made for sending men, women, and children to convalescent homes when recommended for such benefit by a medical man. Some 1300 patients were so sent during 1902, many on the part-pay system, nearly £650 being paid by the patients or their friends towards the cost of their maintenance. Another special department of the Fund is the ambulance department, by means of which men and women are trained to render first aid in cases of accidents in the workshops or in the streets, but mostly in the workshops; and in cases where the employés of the firm subscribe £5 per annum to the Fund and include a man or woman holding a first aid certificate of the St. John Ambulance Association they are supplied on loan with completely fitted ambulance boxes. The awards for 1902 amounted to £20,902 as against £19,244 in 1901. The awards for 1903 will not be decided till Jan. 23rd, 1904.

PUBLIC ASPECTS OF SANITATION.

The Sewers of Bristol.

A considerable amount of argument has arisen from the fact that though the death-rate of Bristol compares favourably with other towns the sewers are stated not to be ventilated. This assertion is so absolutely opposed to all the well-established principles and theories that the facts seemed to call for explanation. Consequently our special sanitary commissioner instituted an inquiry on the spot. The result was a clear demonstration that it is altogether an error to state that the sewers of Bristol are not ventilated. There are certainly no grids opening on the street levels nor are there any ventilating shafts built purposely to let the air out of the sewers, but, apart from the fact that the soil-pipes of many houses have no intercepter traps and serve as sewer ventilators, there is a large amount of accidental ventilation. Twice a day the sewers are water-logged by the incoming tide and if they were airtight they would explode under this great pressure. But apart from rat holes and untrapped soil-pipes, there are great storm overflow openings which perform the function of ventilating shafts. Where such means of escape are not near at hand, then the sewer air can easily force its way through the water seal of such houses as are supplied with soil-pipe intercepter traps. The principal lesson to be derived from the experience acquired at Bristol does not show that there is no need to ventilate sewers. At best it indicates that in many instances where ventilation is purposely provided this is done in so imperfect a manner that mere accidental ventilation, such as exists at Bristol, is apt to be quite as effective.

The Housing Question at Aberdeen.

In regard to the housing controversy—which is always with us—a very interesting account was given of what has occurred on the outskirts of Aberdeen. So far back as 1808 the town council actually built nearly 200 cottages so as to house a colony of fishermen who had to abandon their homes in order to make room for the new jetty and port then being built. These cottages remained communa property till 1870, when the council reversed its policy and sought to induce the tenants to purchase their homes instead of merely renting them. From the sanitary point of view nothing is worse than very small property owners. Fishers'-square, as this district is called, is not drained; there are no closets and no water-supply in the cottages and outside there is no pavement. The insanitary conditions are such that it would be easy to prosecute the householders but this would not improve matters. The inhabitants are thrifty, steady, trustworthy fishermen but they literally have not got the money to pay for any of the alterations and improvements which are necessary to render their cottages healthy. Had the town retained possession of the property it could easily have made the necessary additions and as it is able to borrow money at a very low rate the rents charged need not have been largely increased. As it is matters are at a standstill and this because the city fathers of 1870 were not as wise and as far-seeing as their predecessors of 1808.

The Sewers of Cheltenham.

Subsequently our attention was drawn to a very strange state of things still surviving at Cheltenham. Here some of the sewers are private property. They were made

for profit and the corporation must not interfere with them, yet if they get out of order the owners say it is not their business to mend them. Many of these sewers were built by private speculators at the commencement of last century when Cheltenham emerged from the condition of a mere village and gradually became a fashionable place of residence. Of course they are now out of date and are worn out and do not harmonise with the general scheme of drainage which is applied where the town council exercises its full rights. These private sewers occasionally burst, inundate cellars, and are a source of constant complaint and nuisance. It is true that Section 40 of a local Act of 1852 empowers the sanitary authority to call upon the owners of the sewers to repair or to reconstruct them and if the owners refuse the authority may do the work. But the authority must recover the cost from the tenants who, in their turn, might take action against the owners. The whole situation was carefully explained and is so complicated that the only practical solution is for the municipality to buy out all the owners of private sewers. Attempts, indeed, have been made to introduce a Bill in Parliament to obtain the right to make such a purchase but various vested interests have succeeded in wrecking this project and Cheltenham remains in an anomalous position. As a health resort its reputation must suffer from this state of affairs and energetic measures should be taken to secure proper drainage.

Ankylostomiasis.

It was in the month of June that we first called attention to the very serious condition of the Westphalian coal mines. In some of these as many as 90 per cent. of the miners had been found to be infected by the ankylostoma duodenale. In the Ruhr coal-fields there were more than 25 000 miners affected. In Belgium also, in the Liège district, there were as many as 70 per cent. of cases among the miners in some of the coal-pits. Subsequently this subject was debated at length by the International Congress of Hygiene and still more recently by the delegates at the annual gathering of the Miners' Federation of Great Britain. Fortunately the disease so far has only been observed in some tin mines of Cornwall; it has not yet reached the coal-fields of England. It seems to have commenced with the piercing of the St. Gothard tunnel and then to have spread to Hungary. After that it reached Belgium and Germany and there have also been cases in France. The cases in Cornwall are said to have come from South Africa and, at all events, the mischief done on the continent is so serious that it behoves us to take every precaution to prevent similar trouble on this side of the Channel.

The Water-supply of Gibraltar.

The original and what must be described as an audacious scheme for placing Gibraltar beyond all risk of a water famine was fully described. Already in 1898 some portion of the rock above the town was shorn of all vegetation and the crevasses were filled in and cemented so as to constitute a smooth catchment ground. Then four great reservoirs were cut into the rock, where 5,000,000 gallons of water could be stored well away from bombs and shells and changes of temperature or the light of day. The nearest point of the reservoir is 50 feet away from the surface of the rock and 340 feet above the sea. The water was found unaltered when analysed after remaining 12 months in one of these reservoirs. It was thought that 5,000,000 gallons held in reserve would amply suffice; but the water is found so useful for industrial purposes, notably for the boilers of steam engines, and can so readily be sold that the necessity arose for another and much larger scheme. This consists of covering a sandy slope with corrugated iron so as to convert it into a gathering ground. But this slope is on the other side of the rock and just above Catalan Bay. To bring the water above the town of Gibraltar it was necessary to pierce a tunnel of 2025 feet through the rock. However, this is no loss, for the tunnel can be used as a reservoir and can be made to hold 17,000,000 gallons. Then, indeed, will Gibraltar be absolutely safe against drought, however extravagantly the inhabitants may use the water. These works were visited and minutely described.

The Water-supply of Granada.

Very different was the story told in regard to the water-supply of Granada. Here in 1885 the cholera caused such havoc that 313 deaths occurred in a single day from this disease. If cholera was proportionately as fatal among the 5 000,000 inhabitants of Greater London this would mean 20,000 deaths in one day. The water-supply of Granada was then contaminated throughout its course. After such a terrible warning it might be expected that the water would have been protected. Nothing whatever has been done. We published reproductions of photographs showing how filth reached the water-supply which is distributed and drunk unfiltered. All these years have elapsed and the water at Granada is to-day as susceptible to contamination as it was at the time of the great epidemic. The statistics show that in the absence of cholera there is a very high general death-rate with a specially high death-rate from intestinal disorders. The inhabitants complain of their poverty but travellers and pleasure seekers are afraid to go to Granada. The few who are bold enough to venture there generally visit the Alhambra and promptly hurry away, deeming themselves lucky if they only suffer from a passing attack of diarrhœa. It would pay to substitute iron pipes for the present open canalisation and porous pottery pipes which are accessible to contamination along their whole course.

The Sandgate Sanatoriums.

Our attention was directed to the little town of Sandgate. Here there are about 2000 inhabitants and some alarm was created by the presence of perhaps as many as 500 patients suffering from tuberculosis. Is it desirable, despite the comparatively slight infectivity of tuberculosis, that so many sick persons should be dumped down in the midst of a small community of healthy people? The larger number, but not all, of the tuberculous patients are lodged in homes organised on a purely commercial basis by a somewhat notorious individual named JOHN JAMES JONES. Here it is professed that outdoor treatment is given but the report which we published showed that there was no space for outdoor treatment, for the houses are in the street and not in the centre of a park or of gardens. The outdoor treatment consists of going into the public street and the inhabitants object to such proximity with patients. Also there was then no resident medical man in charge who was responsible for the treatment and diet of the patients, and such an enterprise ought not to be under the sole control of a person who is not technically qualified and who undertakes the whole affair merely as a money-making business.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Sir WILLIAM SELBY CHURCH, Bart., K.C.B., was for the fifth time elected President, the practically unanimous vote of the Fellows testifying to their approval of the manner in which he had fulfilled the onerous position of head of the College.

During the year the College considered the position which it held in regard to the General Medical Council, more especially in regard to the examinations. The result of the deliberations, however, in this latter respect has not yet been made public.

A report was received from the committee appointed to consider and to report on the practical safety and prophylactic value of antityphoid inoculations. The committee arrived at the following conclusions: "After careful scrutiny of the statistics from both official and private sources which have been made available we are of opinion that not only is a

lessened susceptibility to the disease brought about as a result of the inoculations but that the case mortality is largely reduced. We are further of opinion that with due care the process of inoculation is devoid of direct danger, but that under special circumstances there may possibly be some temporary increase of susceptibility to infection immediately following inoculation, and it is therefore desirable that the preparation of the vaccine and the inoculations should be carried out under specially skilled supervision." The work of preparing a revised edition of the "Nomenclature of Diseases" has been vigorously pushed forwards during the year by the committee appointed for the purpose.

The adjudicators of the Weber-Parkes prize and medal selected the following subject for the next award in 1906, "The Degree of Infectivity of Pulmonary Tuberculosis and the Administrative Measures desirable for the Control and Treatment of the Disease."

A communication was received from a Member of the College offering a sum of money (£500) for the purpose of encouraging investigation into matters connected with tuberculosis, leprosy, plague, and malaria and suggesting that for this purpose a lectureship should be established to be styled "the Dr. Horace Dobell Research Lecture on the Ultimate Origin, the Evolution, and Life-history of Bacilli and other Pathogenic Micro-organisms." The generous offer was accepted by the College and a committee was appointed to carry out the trust.

The following awards were announced: The Gilbert Blane medals, awarded by the College and also by the Royal College of Surgeons of England, to CHRISTOPHER LOUIS WHITE BUNTON, Surgeon R.N., H.M.S. *Forte*, and JOHN FALCONER HALL, Staff Surgeon R.N., Naval Brigade, North China. The Weber-Parkes prize and first medal to Dr. HUGH WALSHAM and the second medal to Dr. WALTER JOBSON HORNE. The Council recommended that the Moxon medal should be awarded to Dr. JOHN HUGHLINGS JACKSON, F.R.S., as having pre-eminently distinguished himself by observation and research in clinical medicine. The Council also recommended that the Baly medal should be awarded to Dr. JOHN NEWPORT LANGLEY, D.Sc., F.R.S., of Trinity College, Cambridge, as having especially distinguished himself in the science of physiology. Mr. ARTHUR RICHARDSON, late of Epsom College, was appointed Jenks scholar for the ensuing year.

The official lectures for the year, as we have already said, were delivered by Dr. H. TIMBRELL BULSTRODE, Dr. T. R. GLYNN, Dr. C. E. BEEVOR, Dr. A. S. F. GRÜNBAUM, and Dr. E. F. TREVELYAN. The Harveian orator for the year was Dr. W. H. ALLCHIN who selected as his subject the Study of Structure in Relation to Function.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The past year has, on the whole, been comparatively uneventful. At the elections to the Council in July there was but little contest. Mr. ALFRED WILLETT and Sir FREDERICK TREVES, two of the members of Council whose term had come to an end, did not seek re-election, but the third, Mr. H. T. BUTLIN, and Mr. G. H. MAKINS, Mr. C. T. DENT, and Mr. F. S. EVE were candidates, and of these Mr. BUTLIN, Mr. MAKINS, and Mr. DENT were elected, Mr. BUTLIN heading the poll. Since the date of election Mr. T. R. JESSOP has died and Mr. PICKERING PICK has resigned, so that there will be two extra vacancies on the Council to be filled in July, 1904. Two former members of the Council, Mr. WILLIAM CADGE of Norwich and Mr. GEORGE LAWSON, have died. The term of office as President of Sir HENRY G. HOWSE came to an end in July and Mr. JOHN TWEEDY was elected President of the College, Mr. HENRY MORRIS and Sir ALFRED COOPER being appointed Vice-Presidents. An annual meeting of the Fellows was summoned for July 2nd, but only six Fellows were present and these included the President and the two Vice-Presidents. The abstention of the Fellows may be explained by the fact that there were no agenda for the meeting. In consequence of the continued inability to form a quorum at the meetings of Fellows the Council has decided to suspend during 1904 the rule which requires that one such meeting should be called yearly in July. At the annual meeting of the Fellows and Members in November the usual motion was carried claiming for the Members the right to representation on the Council. Another resolution requested the Council to receive a deputation of Members on the same subject. When these resolutions were subsequently discussed by the Council it decided that it was not expedient to reopen the question of the representation of Members on the Council. A motion requesting more information as to the proceedings of the Council was withdrawn when the PRESIDENT explained that the full minutes of the Council were suspended in the hall of the College, and the Council has since resolved to exhibit the minutes of the Council also in the Fellows and Members' common room and in the library. The last motion dealt with the dispute between the Council of the College and the General Medical Council as to the places for instruction in the elementary science subjects, but the motion was not carried.

The John Tomes prize was awarded to Mr. KENNETH WELDON GOADBY. The Jacksonian prize was awarded to Mr. T. CRISP ENGLISH, of St. George's Hospital, for his dissertation on Fracture of the Skull, its consequences immediate and remote, including Pathology and Treatment. An honorarium was also awarded to Mr. LOUIS B. RAWLING for the excellence of his essay on the same subject. The subject for the Jacksonian prize in 1904 is the Diagnosis and Treatment of such Affections of the Stomach as are amenable to Direct Surgical Interference.

The Bradshaw lecture was delivered by Mr. HENRY MORRIS, his subject being Cancer and its Origin. The Hunterian oration was delivered by Sir HENRY G. HOWSE. At the Hunterian dinner Lord ROBERTS was admitted to the honorary Fellowship. One member of 20 years' standing was elected Fellow, Sir FRANCIS HENRY LOVELL, C.M.G., Dean of the London School of Tropical Medicine and late Surgeon-General of Trinidad.

A replica of the bust of Sir WILLIAM MAC CORMAC, executed by Mr. ALFRED DRURY, A.R.A., for St. Thomas's Hospital, was presented to the College by the subscribers. The College has purchased a portrait by GEORGE RICHMOND, R.A., of the late Mr. HENRY HANCOCK, President of the College in 1872. Professor RETZIUS of Stockholm has presented to the library a valuable set of scientific works. A purchase of some interest is a doctor's signboard dated 1623, which exhibits in different panels the chief operations performed.

The excess of income over expenditure for the financial year was £2004. The College lent some of its valuable pathological specimens to the University of London for the purpose of its examinations, but it has suggested to the University the desirability of conducting its pathological examination at the College in order to prevent that damage to the specimens which is very likely to result from frequent removal to and fro. The Council was requested to give its views to the Worshipful Company of Spectacle Makers on the suggested inclusion of sight testing in the examination for the diploma of the company. In its carefully considered reply the Council pointed out the danger of anyone without an efficient medical and surgical training being deemed competent to prescribe a medical or surgical remedy or appliance. The London County Council having asked the College to suggest the names of well-qualified pathologists to make post-mortem examinations and to give evidence in special inquest cases the Council declined to make any nomination and pointed out the

inadequacy of the fee of two guineas for the services required from medical men so highly accomplished as skilled pathologists.

THE BENEVOLENT AGENCIES OF THE PROFESSION.

Epsom College, late Royal Medical Benevolent College.

An important event in the history of this institution was the meeting of governors held on Nov. 26th, under the presidency of the Earl of ROSEBERY, when it was decided to change its name to "Epsom College" and to add the following sub-title to all documents issued from the office of the charitable side of the work in London: "Established in 1855 as a Public School with a Royal Medical Foundation." Prominence is thus given to the fact that the college founded by Mr. PROPERT nearly 50 years ago is a public school. The college has extensive playing fields, an excellent swimming bath which has recently been reconstructed at a cost of about £1000, a detached sanatorium, a well-equipped laboratory, a lecture theatre, a lower school capable of accommodating 100 junior boys, fives courts, a biological laboratory, a modern laundry, a carpenter's shop, and a system of drainage which has been carefully arranged under expert advice in recent years at great expense. The fee charged for sons of those not members of the profession, 75 guineas, is a moderate one; sons of medical men obtain a reduction of 10 guineas; there are entrance scholarships of £30 a year and there are "council exhibitions" for the sons of less fortunate members of the profession, which reduce the fee to 35 guineas. Foundation scholarships to the number of 50 are provided for the necessitous sons of medical men, the holders of which are educated, clothed, and maintained free of cost. Owing to the generosity of the hospital authorities there are numerous scholarships at the hospital schools in London ranging in value from 120 guineas to £150, and through the liberality of living and deceased friends of the college there are also a number of scholarships and exhibitions for science and classics from £30 to £60 in value for boys leaving to go to the universities. Provision is also made for 50 pensionerships. At the twenty-ninth festival dinner of the college, which was held at the Hotel Cecil on June 10th, the PRINCE OF WALES, who presided, said that he could hardly imagine that there were any institutions more deserving of public support than those the object of which was to help members of the medical profession and their families who through misfortune or otherwise were brought to reduced circumstances. The foundation scholarships and the pensionerships, however, are far from obtaining a satisfactory measure of support and every medical practitioner ought to subscribe at least 5*s.* a year towards the benevolent side of the institution. No one has worked with greater energy on behalf of the college than Dr. CONSTANTINE HOLMAN, the treasurer, whose services were fittingly acknowledged at a meeting of the council on August 5th when Sir JOSEPH FAYRER presented to Dr HOLMAN, on behalf of the members, an illuminated address and a portrait which now hangs in the council chamber of the college, 37, Soho-square, London, W.

The British Medical Benevolent Fund.

During the year assistance has been given to 160 deserving applicants, to whom sums amounting to £1661 have been voted, payable generally in small monthly instalments. The cases have been, as always, of a most distressing nature, but owing to the falling off in subscriptions many have had to be passed over or postponed and few could be adequately helped. A climax was reached at the October meeting of the committee when with 16 applications on the list there was no available balance and an account at the bank was overdrawn to the amount of £52. A special appeal was therefore decided on and as a result £270 have since been received. To all those who kindly came forward to help the committee asks us to tender most sincere and hearty thanks. In the annuity department the interest on invested capital has yielded an income of £2503, of which £2302 have been distributed amongst 116 annuitants. Legacies amounting to £2860 have been received. Following the rule this amount has been invested and the interest will be devoted to the payment of annuities. The committee earnestly appeals to the profession for assistance and would point out that the working expenses of the charity are only just over 5 per cent. and that the accounts are audited every year by a well-known firm of chartered accountants. Subscriptions and donations may be sent to the treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

Society for the Relief of Widows and Orphans of Medical Men.

During the year 12 new members have been elected, three having died, and three having resigned. The members number 298. Two widows and six orphans have applied for relief, three widows have died, and one orphan has become ineligible. At the end of the year 53 widows and 15 orphans were in receipt of half-yearly grants. A sum of £3922 10*s.* has been distributed during the year. The expenses have been £246.

THE LANCET *Relief Fund,*

for the purpose of affording immediate pecuniary assistance to medical men or their widows and orphans in cases of distress and emergency by grants of money on loan free of interest or by gifts, has assisted some 37 persons during the past year, involving an expenditure of £432 16*s.* 6*d.* As the accounts are not made up till the end of the year there is a probability that these figures may fall short of the actual totals.

CONTRIBUTIONS FROM THE LANCET LABORATORY.

Several questions of medical interest have occupied attention in THE LANCET Laboratory during the year. In the first number of THE LANCET, published on Jan. 3rd, on p. 71 appeared an article on the Chemistry of the Oyster and Some Remarks with Regard to its Dietetic Value. The results of the inquiry threw some fresh light upon the nutritive value of the oyster and brought forward points of dietetic significance. Amongst other things the amount of liver sugar was found to be much less than that recorded by previous observers. Copper appeared to be a constant constituent of the mineral matter but in minute amount. Experiments on the solubility of the oyster showed that the crushed oyster yields more than one-half of its constituents to cold water, while only a fourth of the solid contents of the uncrushed oyster is dissolved. The cold water extract gave on heating an albuminous coagulum and on concentrating the watery extract a brown liquid was obtained which was indistinguishable as regards taste and smell from well-prepared beef-tea and developed osmazone to a remarkable degree. It is to be hoped that it will soon be possible to declare that the oyster beds of this country are free from any risk of pollution with sewage.

In THE LANCET of Jan. 31st, p. 327, an article from THE LANCET Laboratory was published on the Analysis of the Water from the Holy Well of Zem Zem. The analysis referred to a sample sent to us by Sir HORACE H. PINCHING, K.C.M.G., Director-General of the Sanitary Department of the Ministry of the Interior at Cairo. Evidence was obtained in favour of intense pollution still taking place and in this regard the results were worse than those which were obtained in THE LANCET Laboratory in 1892 but almost identical with those obtained with a sample submitted to us in 1883. Microscopical examination showed the presence of fibres derived from personal clothing, a not very surprising result seeing that the pilgrim retires grateful when he feels that the cloth round his loins is wet.

In THE LANCET of Feb. 14th, p. 465, appeared the results of an investigation by our Laboratory Commissioners into a process of cleaning by vacuum. The process is of great sanitary importance as it removes the dust from the carpets, walls, and upholstery of the house very effectually and without any need for disturbing the furniture, whilst causing no nuisance of any kind. We gave an account of the results of an actual trial of the vacuum machine in a ten-roomed house; an analysis was published showing the composition of the dust obtained and the results of a microscopical examination were also detailed. Since our report appeared the process has found a very wide application, as, for example, in removing the spilt grain in a granary or brewery and extracting the dust from the upholstery of railway carriages; in a number of other ways it has also proved satisfactory. In the case of theatres the application of the machine has removed close upon 500 pounds of dust lodged in the carpets, the curtains, and the cushioned seats of the auditorium.

The publication of the report of THE LANCET Special Analytical Commission on Brandy in THE LANCET of Nov. 29th, 1902, p. 1503 drew very considerable attention to the general question of the practice of substitution in the spirit trade. We dealt with this question in regard particularly to the blending of malt spirit with grain spirit in the production of whisky in our issue of Feb. 21st, p. 542. This article made a considerable impression upon the public and the trade, especially as we were able to state that chemical analysis afforded a means of differentiating an all-malt spirit from a blended whisky. We urged that some control should be brought to bear upon this enormous practice of substitution. We suggested that it should be insisted that on the labels of the bottles of all spirits there shall be printed a clear statement of the nature of the contents, whether the spirit be an all-malt whisky or partly malt and partly grain spirit or an all-grape brandy or a partly grape and partly grain spirit, and so forth. There can be no objection to the sale of blends so long as they are sold as such, but it is obviously fraudulent to offer a mixture when a pure unmixed spirit is expected or asked for. We pointed out that there is no reason why the Excise authorities should not undertake the control of this labelling and accurate description of spirits, for the Inland Revenue authorities must know exactly the pedigree and the history of all the spirit produced in the United Kingdom.

We dealt again with the increasing practice of substitution in an article in THE LANCET of Oct. 17th, p. 1104, which gave rise to some correspondence in our columns. Our remarks had their origin in a civil action in which the plaintiff sought to recover damages from the defendant for fraudulent misrepresentation in regard to the sale of boots. We had the opportunity of inspecting a specimen of the kind of boot which was supplied in answer to the description of "solid." On ripping up the outer sole strips of cardboard were found inserted between the outer and inner sole. In the same article we gave the results of the examination of a piece of silk taken from the sleeve of a blouse which had caused an acute irritation of the skin. An analysis disclosed that the material was loaded with no less than 40 per cent. of mineral matter consisting, as further examination showed, of the oxides of aluminium and tin with distinct traces of arsenic. We appeal again for a system of control over such pernicious practices and for the suppression of the scandal of substitution.

In consequence of certain allegations having been made against pharmacists who were accused of substituting cheap for the more expensive drugs included in a prescription we made a short practical inquiry into the matter. We secured samples of medicine made up in response to a test prescription and submitted them to careful analysis. The results were decidedly in favour of the integrity of the dispenser and in fact the figures afforded by analysis were in remarkable agreement with those required by the prescription, although the prescription was so made up as easily to admit of the substitution of one drug for another as, for example, sulphate of quinine for the hydrochloride, potassium bromide for sodium or ammonium bromide.

In THE LANCET of May 30th, p. 1537, we called attention to the dirty state of the waters of the fountains in Trafalgar-square. We published an analysis of a sample taken by ourselves and the results were very unsatisfactory. Our remarks elicited the fact that for the sake of economy the water pumped from the fountains is used over and over again and we understand that the source of supply is an artesian well which is also used for supplying water to Buckingham Palace, Marlborough House, the Houses of Parliament, and the Government offices. We have reason to believe that the authorities concerned have been more vigilant lately in their endeavours to keep the fountains and the pools in Trafalgar-square cleaner.

In THE LANCET of June 20th, p. 1758, were published some interesting facts based upon laboratory experiments regarding the purifying effect upon the air of the heavy rainfall which has been so persistent this year. It was shown that the chief impurity washed out of the air is ammonia in the form of sulphate, the origin of which, of course, is the combustion of coal. There were also present common salt, soot, and suspended matters.

In THE LANCET of July 4th, p. 41, we pointed out that the floods occasioned by heavy rain were having a bad effect upon the drinking water supplied to London by those companies which draw water for the purpose from the Thames or the Lee. A chemical analysis of the New River supply was made in THE LANCET Laboratory and the results obtained were compared with an analysis of the same water made at a normal period. The results showed, as we anticipated, a slight increase in the amount of chlorides, of free ammonia, and of albuminoid ammonia, and a diminution in the degree of hardness and in the amount of nitrate, while instead of being nearly colourless or slightly blue the water exhibited a distinctly yellowish-brown colour.

On the occasion of the inauguration of the new water-supply at Margate on August 6th, one of our Laboratory Commissioners made an inquiry into the scheme and his results were published in THE LANCET of August 15th, p. 467. Margate now possesses a pure and abundant water-supply taken from the chalk downs lying between the borough and the city of Canterbury.

In summarising the events of the year 1902 we observed that we quite failed to understand why the recommendations of the Departmental Committee on Preservatives and Colouring Matters in Food, which were published in November, 1901, had not been considered and embodied in the statutes. Another year has elapsed and absolutely nothing has been done towards making these recommendations part and parcel of the provisions of an Act. The practice of preserving food, as was pointed out in THE LANCET of Oct. 24th, p. 1180, goes on practically uncontrolled, at any rate, by statute.

The number of specimens of foods, drugs, and other articles examined in THE LANCET Laboratory and reported upon in our analytical columns was 113 and the number of analyses thus involved was 505. In connexion with special inquiries the number of single analytical determinations made was 86, bringing the total to a little short of 600.

INTERNATIONAL CONGRESSES.

The Fourteenth International Congress of Medicine.

As Professor BROUARDEL truly remarked, the International Medical Congresses find their very existence endangered by their success. The first Congress met in Paris in 1867 and the fact that it was attended by some 300 medical men was

then considered very wonderful. The Fourteenth International Congress of Medicine met at Madrid during the last week of April this year and there were some 7000 members present. At best the accommodation at Madrid is limited. The town is not situated on one of the great highroads of international traffic. Then such hotels as exist were already fuller than usual in consequence of the Easter holiday visitors and because the country being in the throes of a general election a large number of politicians went to the capital for instructions. When, in addition to this crowd, 7000 members of the Medical Congress arrived a situation was created that could only be met by the exercise of the genius of organisation sustained by well trained business faculties. Now these are qualities in which the Spanish people as a race are singularly deficient. Nor is the medical profession as a profession calculated to develop such special capacities. The result was a remarkable state of chaos accompanied in not a few cases by shameful extortion. A false impression was allowed to prevail that the organisers of the Congress were also arranging for the reception and the housing of the members. The latter therefore sent as instructed £2 to the "Service des Logements" and expected to find that rooms had been retained for them. But on arriving at Madrid they found themselves at the mercy of extortionate agents and not in the hands of a committee formed by the organisers of the Congress. They were first of all called upon to pay for ten days' board and lodging in advance, being assured that such coupons given in exchange as were not used would be reimbursed. Then when they got to the lodgings they found them bad or inferior considering the price paid. In answer to complaints the landlords explained that they had to pay heavy commissions to intermediaries and if the visitors had dealt directly they could have had the same accommodation for a much smaller sum. Thereupon many members did deal directly with the landlords and went to the Congress offices to get their coupons reimbursed. This produced a panic similar to a run upon a bank and the office for lodgings had not enough ready cash in hand to reimburse the coupons, so the cashier had to close his office. As an excuse for this a rumour was spread that forged coupons to the extent of 7000 pesetas had been cashed. Now the lodging-house keepers who had accepted coupons in payment were also seized with panic and came clamouring down to the closed door of the cashier's office. Finding they could not get paid some of them refused to accept any further coupons from their lodgers. The latter, who had paid at exorbitant rates in hard cash and in advance for ten days' board and lodging, were in a very awkward position, particularly if they had not enough money in hand to pay twice over for their board. Fortunately this state of affairs did not last long. The cashier ultimately resumed payments, the coupons were honoured, and after a while the pandemonium that had prevailed at the Congress offices subsided.

There has been much disorder at other congresses but the climax was reached at Madrid. As for the scientific work done, that also was somewhat chaotic—there were so many sections and it was so difficult to know when at any one section any one paper would be read. Many members simply wandered about from section to section with the vague hope of hearing something that might interest them. Excursions to Toledo, to the Escurial, and to many institutions, hospitals, asylums, and the like did not fail to prove more attractive than the work of the sections. The latter were therefore remarkably empty in spite of the very large number of members of the Congress actually in Madrid who could, and perhaps in different circumstances would, have attended them. However, if these absentees failed to contribute to the discussions there was a formidable array of papers presented and read. These will constitute ponderous volumes and among the many things recorded there are some of undoubted value. Time will show which of the new suggestions made will permanently survive and meanwhile it will be recognised that this great Congress, with all its confusion and the trouble that arose, was a mighty and a fruitful work. It demonstrated that there was a lack of organising capacity but the very inconveniences thus created afforded to our Spanish hosts innumerable opportunities of displaying the courtesy, the friendliness, and the charm of manner and of bearing for which the nation stands pre-eminent in Europe. From the KING and the QUEEN DOWAGER down to the man at the street corner everyone was ready to help in every way and to befriend and to honour the guests of Spain. This greatly facilitated the smoothing over of the material difficulties that had occurred. Also, the great ceremonies, above all the opening ceremony at the Grand Opera House, were magnificently organised. For pomp and stateliness they were unequalled. The reception in the palace —and it is one of the finest palaces in Europe—and the subsequent garden party in the palace grounds were so impressive and brilliant that they will not be forgotten and all who were present will remember gratefully the hospitality which the representatives of medical science of the world received at the hands of the Royal House of Spain. But others, according to their more modest means, were equally hospitable and whatever the town or institution the members of the Congress visited they were always cordially received and made welcome in every way.

The Eleventh International Congress of Hygiene and Demography.

As a contrast to the International Congress of Medicine the Eleventh International Congress of Hygiene and Demography was one of the most perfectly organised gatherings of the sort ever held. It is true that the task was much easier and also it must be recognised that the science of hygiene embraces within its ranks a far greater number of efficient organisers and business men than does the science of medicine. For instance, hygiene includes sanitary engineering, certain phases of architecture, and various administrative functions, sanitary police, and the like. Hence on the committees of such congresses there are men habituated to the work of administering, of organising, and of providing for the transport of people from place to place and all the business transactions attached thereto. If medical men had to manage hospitals it might help them to acquire such business capacities; but hospitals are generally managed by laymen, so that few medical men have experience how provision should be made for the reception and entertainment of a sudden inrush of several thousand strangers. The case is very different when we have to deal with experienced chiefs of Government departments, such as M. E. BECO, the Secretary-General of the Ministry of Agriculture and General Director of the Public Health Services of Belgium. This gentleman was the president of the International Congress of Hygiene under the honorary presidency of H.R.H. Prince ALBERT. Around him were gathered engineers who had superintended works where hundreds of people were employed and functionaries hardened in the routine of bureaucratic work. Many weeks before the Congress met the members had a list of the hotels with their tariffs and were able to apply directly to the landlords without any intermediary being able to make a commission out of the transaction. The reports which were to be discussed in the seven sections of hygiene and in the division of demography were printed as quickly as they were received. Many of them were distributed weeks before the Congress met. Where there was delay it was the fault of the reporters who had not done their work in time and not the fault of the organisers of the Congress. A daily paper issued in the morning kept the members of the Congress well informed as to what was going on in each section and the reports being read and studied beforehand each interested person knew

exactly what part he might be able to take in the discussions. Consequently the sections were crowded, the debates were well sustained throughout, and a really serious week's work was accomplished. There was not a hitch anywhere. Certainly this Congress was much easier to manage than the Medical Congress, first because there were only some 2000 members present and, secondly, because Brussels is situated on one of the most frequented international highways and is far better accustomed to receive travellers of all nationalities. Nevertheless, a congress of 2000 members is quite large enough to degenerate into a mere mob if not carefully organised and in respect to organisation the Belgians certainly distinguished themselves. The general secretary, Dr. PUTZEYS, and the secretary, Dr. VOITURON, were ubiquitous and they had behind them a very efficient staff of clerks. There were the usual banquets, the reception at Court, and the excursions, with the accompaniment of still more banquets. Then there was a gala theatrical performance and, in a word, pleasure was not neglected, though, as the lengthy reports which we published fully demonstrate, much work was done. Nor was this work confined to study and discussion; it has already, in one important respect at least, ripened into action. The proposal made at the Congress by different persons and for different objects, that some sort of permanent international bureau should be established has been adopted. The Congress of Hygiene met at the commencement of September. The International Sanitary Conference met at Paris on Oct. 10th. Here an international agreement was drawn up by the official representatives of the different Powers. Never before has an official conference of this sort been so well attended. The representatives of 25 nationalities were present and 20 out of them were authorised to sign the convention drawn up. This convention contained a clause establishing a permanent international sanitary office which will be located in Paris and where all nationalities will be represented. Doubtless, at first, its task will consist chiefly of facilitating the international exchange of information, but this, in course of time, will tend to encourage international legislation on sanitary matters where such agreements between nations are found to be of mutual benefit. It will be seen, therefore, that the admirably organised International Congress of Hygiene held at Brussels last September has not been long in producing practical results.

THE ORGANISATION OF THE PROFESSION.

This year we carried our investigations into Wales where we found a determined effort had been made at Swansea to establish a medical union. Here the members of friendly societies paid the same sum for medical attendance whether married or single and the medical officer was expected to attend the families of the members. This payment was on an average 6*s*. 6*d*. per year—far too little for a family—but 2*s*. 2*d*. more than single men generally pay. Dr. T. D. GRIFFITHS, however, related that he once had a club at Swansea and all the members paid 5*s*. a year. He contracted with a local druggist for medicine at an average charge of 6*d*. per bottle and pills at 2*d*. per box. As a consequence at the end of the year he found that his drug bill exceeded by £11 the sum which he had received from his club. Thus Dr. GRIFFITHS had given his services for nothing and had also spent £11 out of his own pocket, and yet the workmen whom he had attended would have been most indignant if they were told that they were in receipt of charity. Another club of 500 members offered payment which he calculated would be equal to 1½*d*. per consultation. Therefore, and so as to clear ½*d*. per consultation the medicine given should not cost more than 1*d*. No wonder that at 6*d*. a bottle such transactions resulted in an actual loss. It is fortunate indeed that the profession has at last risen up against such a state of affairs and we were pleased to record that unanimity prevailed at Swansea and that substantial advantages had been obtained. Much still remains to be done but a step forward has been taken and further progress may be anticipated. The threat of the friendly societies to create a medical institute of their own has not been realised and the members of the Medical Practitioners' Association of Swansea and district have obtained better terms and, what is still more beneficial, have put an end to the former disastrous competition which divided the profession against itself.

Unfortunately, the situation is not nearly so good at Cardiff. In this, the most important town in South Wales, there seems to be a total absence of public spirit among the members of the profession. The subscribers to the clubs pay generally 1*d*. per week and family clubs are not so prevalent as at Swansea, but there are many abuses and a considerable amount of canvassing. On one occasion a woman canvasser was employed to extol the virtues of the medical officer who attended on all who took out a life insurance policy from a certain company. This lady canvasser presented herself to the patients of various medical men—patients who were in the habit of paying the ordinary fees and could well afford to do so. Nevertheless, she suggested that they should insure their lives and then only a penny per week would be charged for medical attendance.

At Aberdare there is a colliery surgeons' society and in many places it has succeeded in carrying out what is called the "poundage" system. This is certainly the fairest of all systems. The miners pay 3*d*. in the £1 for medical attendance out of the wages which they receive. Thus an increase of wages means an increase of pay for medical attendance and where the pay is poor it is because the patients themselves are really poor. The difficulty here, if any, is rather among the medical men themselves and not so much in regard to their dealings with patients. The question at issue is whether the contract work, which is much better paid under the poundage system, should be divided between many practitioners or concentrated in the hands of one or two of the highest standing who employ qualified assistants. It is argued that several practitioners each receiving but a small sum cannot be equipped with operating tables, surgical instruments, and other necessaries on the same lavish scale as where the medical services are centralised. We pointed out hat there is here an interesting scientific, practical, and economical problem. Shall the work and responsibility be concentrated? Shall two leading practitioners employ on the wages system, order, and direct six qualified assistants? Or else, shall eight independent practitioners, each with his own individual practice and his small income, carry out the work? The rival principles of collectivism and individualism have thus manifested themselves even in regard to the methods of attending colliers and this is one of the several ways in which the economic evolution affects medical practice as it affects all other economic conditions of modern civilisation.

At Pontypridd some ten years ago a Medico-Ethical Society was founded. Its influence has been exercised mainly over colliery surgeons. The object and policy of this organisation have been ethical rather than economic. This is doubtless due to the fact that the society was founded before the present movement in favour of medical unions had been started. As a consequence, at a pit in the smaller of the two Rhondda valleys the excellent poundage system of payment has been abolished by the miners and they have employed a medical man at a fixed salary. A lay committee is now exploiting its medical servant. The Medico-Ethical Society should have fought against this but not being organised as a medical union it was unable to do so.

At Cheltenham, on the other hand, there is quite a young society, founded in 1901, and it at once was engaged in an economic struggle. Here the Oddfellows and members of other benefit societies only paid 3*s*. a year for medical attendance and the members of the medical profession decided that they would not accept less than 4*s*. a year and 10*s*. for

the whole family. At first these terms were granted. Later, however, a dispute arose in regard to the political clubs. These also have sick benefits but as they only seek to organise voters they do not enrol women members. This, from the medical point of view, is preferable to the practice prevailing among the Oddfellows and friendly societies generally which, on the contrary, have often sought to establish female lodges. Now one of the medical officers, having expressed this opinion perhaps too freely, was accused of persuading the members of a friendly society to join a political club. As the members of the friendly society were for the most part Radicals and their medical officer was also medical officer of the Conservative club, politics were mixed up with the question at issue. This ultimately resulted in the founding of a medical institute and the importation of a medical man to reside at the institute and to act as the attendant on all the members of the federation of various societies which had come together for this purpose. It is not certain, however, whether this venture will pay its way.

The case of Dr. LACHLAN GRANT, whose right to practise in the district of the Ballachulish slate quarries has now been restored to him by the directors of the company working the mines, attracted the attention during the year of all those interested in the maintenance of the rights of the medical profession. In the proper section the legal position of the case is alluded to, and the fact is mentioned that Dr. GRANT'S interdiction was declared by more than one court to be legal. There can be no doubt, however, that the directors have acted with justice as well as prudence in yielding to the quarriers' wishes. The details of the case are familiar to all our readers.

HONOURS TO MEDICAL MEN.

It is a pleasant task in making our chronicle of the year's events to record the names of those members of the profession who have received public recognition of their services. For the last two or three years we have been able to close our list of honours with the names of members of our profession who have won the coveted distinction of the Victoria Cross but this year the country has fortunately had no large military operations on hand and consequently there has been little opportunity for medical men to distinguish themselves on the field. The following plucky deed, however, will rank with those for which the cross with the motto "For Valour" is awarded.

The Albert Medal.

At the levée held in March His Majesty the KING presented Captain HERBERT CUMMING FRENCH, R.A.M.C., with the decoration of the Albert Medal, second class. On Nov. 17th, 1902, H.M. Transport *Wakool* was steaming through the Straits of Malacca at a rate of about 12 knots per hour when a native fireman jumped overboard. Captain FRENCH, who was a passenger, immediately dived into the sea from the promenade deck, a height of about 36 feet, and swam to the place where the fireman had been last seen. When, however, he reached the spot the man had sunk and Captain FRENCH, becoming exhausted by the weight of his clothing, had to make for a life-buoy. Both men were eventually rescued by the life-boat. A strong current runs at the place and Captain FRENCH incurred great risk of being caught by the ship's screw; in addition to this danger sharks are frequent in the Straits of Malacca.

Birthday Honours.

His Majesty the KING having decided that the celebration of his birthday should take place in this country during the summer and at foreign stations on the actual date of his birth—namely, Nov. 9th—there have been issued in consequence two lists of Birthday Honours. The first list included the names of Mr. ALFRED DOWNING FRIPP, C.B., C.V.O., Dr. STEPHEN MACKENZIE, Dr. EDWIN COOPER PERRY, and Dr. PATRICK HERON WATSON, each of whom received the honour of knighthood. Sir ALFRED FRIPP did excellent work in South Africa during the war and since his return home has supplemented that work first as a member of Mr. BRODRICK'S committee for the reorganisation of the Army Medical Services and subsequently as a member of the Advisory Board in connexion with the medical department of the army. Sir STEPHEN MACKENZIE is well known as a physician of very wide attainments. Sir EDWIN PERRY, like Sir ALFRED FRIPP, is a member of the Advisory Board for the Army Medical Services, and Sir P. HERON WATSON, honorary surgeon to HIS MAJESTY in Scotland, is the representative of the Royal College of Surgeons of Edinburgh upon the General Medical Council and is an ex-President of the College which he represents. In the same list occur the names of Dr. PATRICK MANSON, C.M.G., who was promoted to be a Knight Commander of the Order of St. Michael and St. George, Surgeon-General COLVIN SMITH, C.B., I.M.S., and Surgeon-General JOHN BY COLE READE, C.B., A.M.S., who were made Knight Commanders of the Bath, and Surgeon-General GEORGE JOSEPH HAMILTON EVATT, A.M.S., and Surgeon-General ADAM SCOTT REID, I.M.S., who received Companionships of the Bath. Sir PATRICK MANSON, the medical adviser to the Colonial Office, received his promotion from Companion to Knight Commander of the Order of St. Michael and St. George for special services in connexion with tropical diseases, and Sir COLVIN SMITH and Sir JOHN READE were elevated to the higher grade of their Order for military services.

The November list of honours included the names of Dr. A. R. MANBY, M.V.O., who was made a Knight; Captain T. H. M. CLARKE, R.A.M.C., D.S.O., who received a Companionship of the Order of St. Michael and St. George for services in Crete; and Dr. ROBERT BELL, acting director of the Department of Geological Survey, Canada, who was appointed a Companion of the Imperial Service Order. Sir A. R. MANBY is surgeon-apothecary to the KING and to the PRINCE of WALES.

Honours in connexion with the King's Visit to Ireland.

In connexion with the Royal visit to Ireland Dr. ARTHUR VERNON MACAN and Mr. LAMBERT HEPENSTAL ORMSBY received knighthoods. Sir ARTHUR MACAN is President of the Royal College of Physicians of Ireland and Sir LAMBERT ORMSBY is President of the Royal College of Surgeons in Ireland. Dr. CHARLES B. BALL received the honour of knighthood at the hands of the Lord Lieutenant of Ireland. Sir CHARLES BALL represents the Royal College of Surgeons in Ireland on the General Medical Council.

The Durbar Honours.

Among the recipients of the Durbar honours were Dr. GEORGE WATT, C.I.E., who was made a Knight; Surgeon-General WILLIAM ROE HOOPER, who was appointed a Knight Commander of the Star of India; and Surgeon-General BENJAMIN FRANKLIN, who was appointed a Knight Commander of the Order of the Indian Empire. Sir GEORGE WATT is officer in charge of the Economic and Art Section of the Indian Museum, Calcutta; Sir WILLIAM HOOPER is President of the Medical Board at the India Office; and Sir BENJAMIN FRANKLIN is Director-General of the Indian Medical Service. Lieutenant-Colonel GERALD BOMFORD, I.M.S., Principal of the Medical College, Calcutta, and Major ALFRED WILLIAM ALCOCK, F.R.S., I.M.S., superintendent of the Indian Museum, were appointed Companions of the Order of the Indian Empire. Lieutenant-Colonel ROBERT WILLIAM STEELE LYONS, I.M.S., superintendent of Dharwar Lunatic Asylum, and Major DAVID SEMPLE, R.A.M.C., director of the Pasteur Institute, Kasauli, received the Kaisar-I-Hind medal.

Kano-Sokoto Expedition.

In recognition of his services in connexion with the Kano-Sokoto expedition Mr. WILLIAM HENRY LANGLEY, deputy principal medical officer, Protectorate of Northern Nigeria, was appointed a Companion of the Order of St. Michael and St. George.

Foreign Orders.

President LOUBET, on the occasion of his visit to this country in July, pinned on the breast of Mr. EDMUND OWEN, F.R.C.S., the ribbon of the Chevalier of the Legion of Honour. Dr. PERCY ATHELSTAN NIGHTINGALE has had conferred upon him the Insignia of the Fourth Class of the Royal Siamese Order of the White Elephant in recognition of valuable services rendered to the Government of Siam when acting as Siamese delegate to the International Medical Conference at Brussels; and Dr. F. M. SANDWITH has received the Insignia of the Third Class of the Order of the Osmanieh, which has been conferred upon him by his Highness the KHEDIVE of EGYPT in recognition of valuable services rendered.

Honours for Ambulance Work.

Dr. JOHN JOHNSTON and Dr. J. HILTON THOMPSON received the special medal for meritorious services during the South African war.

OBITUARY.

The close of another year gives us cause once more to tell the tale of those members of our profession who have passed from this life. Some have reached the utmost limit of human existence and some have fallen almost at the opening of their career. But all, young or old, have done their best in the fight with disease and death and their memories remain for an example to their fellows. In accordance with our usual custom we have made a classification of those deceased as follows.

Royal Navy Medical Service.

On Feb. 10th there died in his eightieth year NARCISSUS COLLINS HATHERLY, M.D. Aberd., M.R.C.S. Eng., staff surgeon R.N. (retired). Dr. HATHERLY was for ten years (1852–62) senior assistant surgeon at the Royal Naval Hospital, Plymouth. For many years he resided in South Molton and was identified with nearly all the works of philanthropy of that town. GILBERT KIRKER, M.D., M.Ch. R.U.I., M.R.C.S. Eng., Fleet Surgeon R.N., died at Haslar on Nov. 24th. His death was due to septicæmia following a wound of his finger received during an operation. He graduated as M.D. of the Royal University of Ireland in 1878 and in the following year was admitted a Member of the Royal College of Surgeons of England. After serving with the Turks in the Russo-Turkish war he returned to England and entered the Royal Navy Medical Service in 1879. He served through the Egyptian war of 1882 and afterwards was assistant professor at Haslar until in 1891 he was appointed staff surgeon. He was next placed in charge of the Royal Naval Hospital at Esquimalt. He was well known throughout the British navy and also in foreign navies for his invention of an ambulance sleigh for transporting wounded on board ship.

Army Medical Service and Indian Medical Service.

EDWARD EUSTACE, M.D. Durh., L.R.C.P. Edin., L.R.C.S. Irel., Surgeon-Lieutenant-Colonel A.M.D., died at Cheltenham on Feb. 16th, aged 62 years. He qualified in 1863 and shortly afterwards entered the Army Medical Department, being in charge of the Women and Children's Hospital at Netley in 1873–74. He then served in India and in 1884 was superintendent of the Military Hospital at Devonport. He retired from the service soon after with the honorary rank of surgeon-lieutenant-colonel and settled down to practice in Weston-super-Mare. JOHN BRAKE, M.R.C.S. Eng., L.S.A., Surgeon-General, Indian Medical Service (retired), died on Feb. 8th at Southsea. He was educated at the City of London School and St. Thomas's Hospital. In 1854 he entered after competition the medical service of the Honourable East India Company. He served for 31 years in India commencing with the Mutiny and afterwards doing work in Simla, the Central Provinces, and Bombay. In September, 1886, he retired with the rank of surgeon-general and lived for some time at Brighton and Winchester. WILLIAM HENRY NEILSON, M.B., C.M. Aberd., Lieutenant-Colonel, I.M.S., died at Indore, Central India, on March 23rd. He became an assistant surgeon in the Indian Medical Service in 1882 and in 1894 was promoted to be surgeon-major with the honorary rank of lieutenant-colonel. JOHN IVOR MURRAY, M.D., F.R.C.S., M.R.C.P. Edin., who died in London on July 24th, saw much foreign service both in war and peace. Born in 1824 he was educated in France and at the University of Edinburgh and gained in 1844 a commission as assistant surgeon in the army. There was, however, no vacancy and he proceeded to China, where he was in charge of the Canton Hospital during the anti-foreign outbreak of 1846. On the commencement of the Crimean war he went to Sebastopol, serving at Balaclava. He next served as colonial surgeon at Hong-Kong but in 1872 returned to England and settled at Scarborough. JOHN HENRY SYLVESTER, Deputy Surgeon-General I.M.S., who died in London on Nov. 29th in the seventy-fourth year of his age, went to India in 1854 under the India Office. He served for a while in Persia, then in India through the mutiny, and, finally, at the Jamjetsee Jeejeebhoy Hospital as professor of physiology. He left India in 1875.

Hospital Physicians and Surgeons.

ALEXANDER THOMSON, M.D., L.F.P.S. Glasg., who died on Jan. 18th, aged 70 years, was educated at the University of Glasgow and in 1861 settled in Dumfries. Ten years later he was appointed visiting physician to the Dumfries and Galloway Infirmary, resigning this post in 1874 to fill a vacancy on the surgical staff, a post which he held to within two years of his death. He was the first country surgeon in Scotland to operate for ovarian tumour, successfully removing one in 1865. Besides holding his hospital post he was for 33 years medical officer of health of the burgh of Dumfries. JAMES PRIESTLEY, M.D. R.U.I., who died on March 31st at the age of 38 years, studied medicine in Belfast, graduated M.D. in 1897, having previously obtained the Diploma of Public Health of the Royal Colleges of Physicians of London and Surgeons of England in 1893. He did much public health work for the then vestry of Paddington and was for three years senior medical officer of the North-Eastern Hospital, Tottenham. He died from septicæmia contracted in the discharge of his duties as a private practitioner at Lee-on-the-Solent, where he settled in 1898. SOLOMON CHARLES SMITH, M.D. Durh., M.R.C.P. Lond., M.R.C.S. Eng., who died at Walton-on-Thames on April 5th, was educated at Birmingham, Guy's Hospital, and Paris, qualifying as M.R.C.S. Eng. in 1863. In 1868 he was elected one of the surgeons to the Halifax Infirmary, but removed to London in 1890. It was mainly owing to his efforts that the Royal Halifax Infirmary was built and opened by the Prince and Princess of Wales in 1896. WILLIAM CADGE, F.R.C.S. Eng., who died in Norwich on June 25th, aged 81 years, needs no further notice here to keep his name in remembrance. His generous benefactions in the cause of charity and his admirable professional work have been already set forth at length in the obituary notice published in THE LANCET of July 4th. JOHN WOODMAN, M.D. St. And. F.R.C.S. Eng., L.S.A., died on June 28th at Exeter. He was in his sixty-seventh year and received his medical education at Guy's Hospital, whence he qualified as M.R.C.S. in 1860. In 1870 he was made a Fellow of the

Royal College of Surgeons of England and graduated as M.D. in the University of St. Andrews in 1882. He settled at Exeter and was on the staff of the Exeter Dispensary as well as being medical officer of health of the city. ROBERT HALL WOODHOUSE, M.R.C.S. Eng., L.S.A., L.D.S., who died in July at the age of 52 years, received his medical education at the Middlesex Hospital. After obtaining the diploma of M.R.C.S. he studied dentistry at the Dental Hospital of London and later was elected surgeon to that institution. He did much in a quiet way to raise the status of the dental profession. FRANCIS HARRISON WALMSLEY, M.R.C.S. Eng., L.S.A., who died on July 16th in his seventy-fifth year, was educated at the Pine street School of Medicine, Manchester, and qualified in 1849. In 1855 he was appointed an honorary surgeon to the Salford Royal Hospital. In 1864 he was elected a member of the Salford town council and did admirable sanitary work, being specially interested in the question of river pollution. SAMUEL FARRANT, M.R.C.S. Eng., L.S.A., who died at Pitminster on July 18th in his sixty-sixth year, was a pupil of the late Mr. C. H. CORNISH, a medical practitioner of Taunton. Mr. FARRANT was for many years an honorary surgeon to the Taunton and Somerset Hospital. He took great interest in municipal matters and was at one time mayor of Taunton. JOSEPH GRIFFITHS SWAYNE, M.D. Lond., M.R.C.S. Eng., L.S.A., who died at Clifton on August 1st in his eighty-fifth year, received his medical education at the Bristol Medical School and at Guy's Hospital. He qualified in 1841 and settled down to practise in Clifton. For 20 years he was physician accoucheur to the Bristol General Hospital. He was also for some time professor of midwifery at University College, Bristol, and a teacher at the Bristol Medical School for 50 years. He took great interest in Church matters and was a member of the building committee of All Saints' Church, Clifton. WILLIAM ALPHONSO HENDERSON, L.R.C.P. & S. Edin., who died in Florence during August, qualified in 1869 and proceeded to China. He was for some time medical officer to the Imperial Maritime Customs at Chefoo and Ningpo, and also medical officer to the Church of England and Presbyterian Hospitals. The names of the three practitioners who come next on the list of those departed—namely, GEORGE WILLIAM BALFOUR of Edinburgh, WILLIAM SMOULT PLAYFAIR of London, and JOHN TATHAM—are so well known in the medical world and the careers of these physicians have been so fully set forth in THE LANCET of August 22nd that we need not here recapitulate the details. HENRY GRAY CROLY, F.R.C.S., M.R.C.P. Irel., who died on August 28th at Rathfarnham, was for more than 25 years surgeon to the Royal City of Dublin Hospital. JOHN EDWARD BOYTON, M.R.C.S. Eng., L.A.H. Dub., who died on Sept. 4th at Watlington, had attained the great age of 87 years. He qualified in 1838 and commenced practice in Watlington where he was for many years on the staff of the Watlington Cottage Hospital. WILLIAM EDMUND IMAGE, F.R.C.S. Eng., who died in October at Mildenhall, was born in 1807 and was thus 96 years of age at the time of his death. He was educated at Guy's and St. Thomas's medical schools and settled in Bury St. Edmunds. In 1844, being consulting surgeon to the West Suffolk Hospital, Bury St. Edmunds, he was elected one of the first honorary Fellows of the Royal College of Surgeons of England. About 20 years later he retired from practice. WILLIAM JOHNSON WALSHAM, M.B., C.M. Aberd., F.R.C.S. Eng., who died at his residence in London on Oct. 5th, received his medical education at St. Bartholomew's Hospital and in due course of time was elected surgeon to that institution. An able surgeon and a kindly and skilful teacher, his death is a heavy blow to the ancient foundation of which he was so devoted a member. THOMAS JAMES PICKBURN, M.D., C.M. Aberd., M.R.C.S. Eng., L.S.A., who died in Sydney in the month of October in his fifty-seventh year, received his medical education at St. Bartholomew's Hospital. He commenced practice some 35 years ago in New South Wales and had practised in Sydney for 25 years. For some years he was one of the physicians to the St. Vincent's and the Sydney Hospitals. ROBERT JOHN GARDEN, M.D. Aberd., who died on Oct. 23rd, received his medical education at the University of Aberdeen and also studied at Berlin, Würzburg, and Vienna. In 1874 he started practice in Aberdeen and soon became a member of the staff of the Royal Infirmary. Three years before his death he retired from his office which was then that of senior surgeon. Sir GEORGE FREDERICK DUFFEY, M.D. Dub., F.R.C.P. Irel., who died in Dublin on Oct. 13th, was educated at the University of Dublin and entered the Army Medical Service in 1867. After serving for nine years he resigned his commission and settled down to practise in Dublin. In 1876 he was appointed physician to Mercer's Hospital, resigning this post in 1882 to become physician to the Royal City of Dublin Hospital. In 1896 he was appointed President of the Royal College of Physicians of Ireland and in 1897 received the honour of knighthood. GEORGE LAWSON, F.R.C.S. Eng., who died on Oct. 12th in his seventy-third year, was consulting surgeon to the Middlesex Hospital and to the Royal London Ophthalmic Hospital, Moorfields, and surgeon oculist to Queen Victoria. His career has been so fully set forth in our issue of Oct. 24th that there is no need to recapitulate the details here. PHILIP BROOKES MASON, M.R.C.S. Eng., L.S.A., who died on Nov. 6th, was educated in Glasgow, in his father's surgery at Burton-on-Trent, and at University College, London. He qualified in 1864 and after holding various appointments in London he was recalled to Burton by the sudden death of his father whose practice he took over. From 1870 to the time of his death he was surgeon to the Burton Infirmary. Sir ROBERT MARTIN CRAVEN, Kt., F.R.C.S. Eng. and Edin., J.P., who died on Nov. 15th, was, like his grandfather and father before him, a prominent practitioner in Hull. He was surgeon to the Hull General Infirmary, was justice of the peace for the East Riding, and was sheriff of Hull. WILLIAM NEWMAN, M.D. Lond., F.R.C.S. Eng., who died on Dec. 3rd, aged 70 years, received his medical training at St. Bartholomew's Hospital. In 1863 he settled in Stamford and was soon appointed surgeon to the Stamford and Rutland Infirmary, an office which he held for 30 years, being then made consulting surgeon. Besides his purely professional work he was very well read, was a good draughtsman, and a great authority upon education.

State and Municipal Officials.

WILLIAM HENRY CROSSE, M.D. Durh., M.R.C.S. Eng., L.F.P.S. Glasg., L.S.A., who died in London on Feb. 24th, will long be remembered for the excellent work which he did in the service of the empire as principal medical officer to the Royal Niger Company. His death was due to disease contracted in the discharge of his duty and his valuable researches upon blackwater fever, many of which were published in our columns, are notable additions to our knowledge of a scourge which so terribly afflicts many parts of the world. WILLIAM HENRY CORFIELD, M.D. Oxon., F.R.C.P. Lond., who died at Marstrand, Sweden, on August 26th, was born in 1843 at Shrewsbury. He went to Cheltenham Grammar School and afterwards obtained a Demyship at Magdalen College, Oxford. He next obtained a Sheppard Medical Fellowship at Pembroke College and won the Radcliffe Travelling Fellowship in 1867. He studied at Paris and Lyons and at various other places on the continent, and in 1869 was appointed the first professor of hygiene and public health at University College, London. His valuable work in the department of

public health is well known and for more than 23 years he was medical officer of health of the parish of St. George's, Hanover-square. Sir CHARLES NICHOLSON, Bart., M.D., D.C.L., LL.D., who died at the beginning of November within a few days of his ninety-fifth birthday, was born in Yorkshire. He studied medicine at the University of Edinburgh, where he graduated M.D. in 1833. In the following year he settled in Sydney and was one of the founders of Sydney University. In 1843 he gave up practice and entered Parliament as a member of the first Legislative Council of the colony. On three occasions he was elected Speaker and was knighted in 1854, receiving the further honour of a baronetcy in 1859. About 1864 he left Australia and settled in London. Oxford gave him the honorary degree of D.C.L. and Cambridge and Edinburgh that of LL.D.

Other Practitioners.

Among the many other medical men who have ended their life work we may mention the following:—PAUL QUICK KARKEEK, M.R.C.S. Eng., L.S.A., who died on Dec. 27th, 1902, at Torquay in his sixtieth year was a well-known medical man in the west of England. He received his medical education at St. Bartholomew's Hospital, qualifying in 1865, and was shortly afterwards appointed assistant surgeon to the Seamen's Hospital, Greenwich. He next studied medicine on the continent and finally settled down at Torquay, where in 1878 he was elected medical officer of health, a post which he held until his death. It was mainly owing to his efforts that the water-supply of Torquay is so efficient. RICHARD CHANDLER ALEXANDER PRIOR, M.D. Oxon., F.R.C.P. Lond., F.L.S., who died on Dec. 5th, 1902, having nearly reached the completion of his ninety-fourth year, was educated at the Charterhouse School, Wadham College, Oxford, and St. George's Hospital. Subsequently to graduating in medicine at Oxford he practised in Bath but his health failing he abandoned active work and devoted himself to the study of botany. JOHN WEBB WATKINS, M.D. Edin., M.R.C.S. Eng., was a well-known practitioner in the north of England. He was educated at University College, London, and at the University of Edinburgh and he was the first human subject other than himself upon whom SIMPSON tried the anæsthetic properties of chloroform. He died on Jan. 30th. JOHN ORTON, M.R.C.S. Eng., L.S.A., who died during the month of February, practised in north Warwickshire and took an active interest in political questions. WILLIAM SAUL, M.D. St. And., M.R.C.S. Eng., L.S.A., who died suddenly on March 11th, practised for many years at Boscombe, near Bournemouth. He was greatly interested in parochial affairs and for the last five years of his life served the office of churchwarden to the Church of St. John, Bournemouth. THOMAS JOHN MACLAGAN, M.D. Edin., M.R.C.P. Lond., who died on March 20th, was for many years a well-known practitioner in Chelsea. He is best known to the medical profession by his work on rheumatic fever and as being the introducer, or rather the renewer, of the use of salicin in the treatment of that disease. EDWARD WILMSHURST TAIT, who died on March 31st, was for over 40 years a well-known practitioner in the north of London. EDWARD MONRO SPOONER, M.D. St. And., M.R.C.S. Eng., L.S.A., who died at Blandford on April 7th, was born in 1840 and was educated at Epsom College and the London Hospital. He qualified in 1864 and succeeded to his father's practice at Blandford. Besides holding other posts he was surgeon to the Blandford Cottage Hospital. HENRY JAMES MOXON, L.D.S. R.C.S. Eng. and Irel., died on June 3rd after an operation for appendicitis. He was the first dentist to be appointed to a Poor-law institution—namely, the North Surrey District Schools, Anerley. ALFRED HAVILAND, M.R.C.S. Eng., who died at Frimley Green on May 30th, received his medical education at University College Hospital, London. He practised in partnership with his father for a short time in Bridgwater, but having contracted septicæmia during an operation he had to resign active work and thenceforward took up the study by which he contributed such valuable results to medical knowledge—namely, researches into medical geography. Before having to give up professional work he was on the staff of the Bridgwater Infirmary. JOHN BIRKBECK NEVINS, M.D. Lond., M.R.C.S. Eng., who died in June, aged 84 years, was for a long period one of the best-known practitioners of the city of Liverpool. JOHN ALEXANDER COOKSEY, M.R.C.P. Edin., M.R.C.S. Eng., who died on July 19th, practised first at Chipping Camden and afterwards at Malvern. He was a sufferer from that danger to which all the members of our profession are exposed—namely, of having charges of a grave nature brought against him, but in one case the prosecuting counsel withdrew the case and in the other the jury acquitted him without hearing all the witnesses for the defence. WILLIAM BURNS MACDONALD, M.A., M.B., C.M. Edin., who died on August 2nd from the remote effects of a bicycle accident, practised at first in Spain and afterwards at Lossiemouth and Dunbar. He was widely read, a good linguist, and had travelled much. FREDERIC NORTON MANNING, M.D. St. And., M.R.C.S. Eng., who died in Australia on June 18th, originally served in the Royal Navy, but his life's work lay in the great reforms which he was the means of introducing in the treatment of the insane in Australia. Of other practitioners we may mention WALTER SUMPTER, M.D. St. And., L.S.A., who died on Sept. 9th and was for many years a prominent practitioner in Norfolk; DAVID ILLTYD JONES, L.R.C.P., L.R.C.S. Edin., L.M., L.F.P.S. Glasg., who died on Sept. 25th, a well-known member of the profession in South Wales; WILLIAM BERRY KELLOCK, M.D. St. And., F.R.C.S. Eng., who died at the age of 82 years and who practised for many years in Stoke Newington; WILLIAM DINGLEY, M.R.C.S. Eng., L.S.A., who died on Nov. 17th, and who commenced his medical studies at the age of 16 years in the year 1844 by serving as an apprentice to a surgeon in Sherborne. He practised after qualifying for over 50 years in the north of London; and SAMUEL WOODCOCK, M.D. Brux., L.R.C.P. and L.R.C.S. Edin., who died at the age of 63 years on Dec. 12th, and who was for many years a prominent figure in Manchester medical and political circles. He was at one time president of the Lancashire and Cheshire Branch of the British Medical Association. In 1892 he was made a magistrate for the city of Manchester.

Distinguished Foreign Medical Men.

Amongst eminent foreign medical men whose deaths have been noted in our pages we may again refer to the brilliant Italian surgeon ENRICO BOTTINI, professor of surgery in the University of Pavia. He died from cerebral hæmorrhage on March 11th. He received his medical education at the University of Turin, whence he graduated in 1860. Five years later he was appointed surgeon-in-chief to the Ospedale Maggiore at Novara and in 1877 was elected to the chair of surgery in the University of Pavia. His name is perhaps most familiar to medical men from his work in connexion with the treatment of disease by means of the galvano-cautery. Italian medicine suffered another grievous loss this year in the death from an accident of FRANCESCO COLZI who died in Florence on April 4th. COLZI was educated at the University of Pisa and at Florence, where in 1879 he was appointed to the post of assistant surgeon at the Hospital of Santa Maria Novella. In 1892 he was elected extraordinary professor of surgery in the University of Modena but returned to Florence in the same year and finally succeeded his old chief CORRADI as professor of clinical

surgery. On March 25th he was at a pigeon-shooting match when his gun exploded and inflicted a grievous wound of his right axilla and humerus. Immediate death was averted by his own skill and pluck and hopes were entertained of recovery as collateral circulation apparently became established. Later, however, the arm had to be removed and tetanus bacilli were discovered in the fluids which oozed from the wound before operation. Despite injections of antitetanic serum he died on April 4th fortified by the last rites of the Church. EDMOND ISIDORE ETIENNE NOCARD, who died in his fifty-fourth year during the month of September while holding the post of director of the Veterinary School at Alfort, did valuable work which is known all over the world on the subjects of epidemic diseases amongst animals, some of which, as tuberculosis, are also common to man. He was a favourite pupil of PASTEUR and 17 years previously to his death was elected a member of the Academy of Medicine of Paris. Professor PROUST, who died on Nov. 26th from a paralytic seizure, was inspector-general of the French sanitary service and rendered his country invaluable aid as regards public health and preventive medicine.

So with the close of another year we end the list of those members of our profession who have passed away. May those of us who remain leave as good a record behind us when our time comes to go also. Their labours here are over and may they rest in peace.

Annotations.

"Ne quid nimis."

THE CHEMISTRY OF CHRISTMAS PUDDING.

MR. EDWY G. CLAYTON, F.I.C., F.C.S., writes:—More than once, in medical journals and elsewhere, the suggestion has been made that chemical analyses showing the composition and food value of the national dish, world famous as Christmas pudding, would be of interest; and although at first sight the subject may seem trivial it is not so in reality. In a few days millions of people, children and adults, will be consuming this triumph of the culinary craft, which for several days at all events must form no small part of the diet of the empire in the most diverse circumstances and in every latitude. Palace, cottage, poor house, ship, and barrack, each has its Noël fare; and few, indeed, are the Christmas feasts at which plum-pudding does not fill an important place. Two puddings, made at different times but from the same recipe used in one household for more than 20 years, have been submitted to analysis and the results are stated below:—

	A.	B.	Mean of the two analyses.
Water	33·35	37·82	35·58
Nitrogenous substances	3·75	4·75	4·25
Fat	5·03	5·38	5·20
Sugar (glucose)	26·00	21·73	23·89
Dextrin	14·41	11·45	12·93
Starch	13·03	9·25	11·14
Cellulose	3·29	7·34	5·31
Acetic acid	—	0·23	—
Tartaric acid	—	0·88	—
Soluble ash	0·89	0·96	0·92
Insoluble ash	0·25	0·16	0·20
	100·00	100·00	—
Alkalinity of ash, as potash	0·08	—	—
Phosphoric acid (combined):—			
Total	0·25	0·20	0·225
Soluble	—	0·15	—
Insoluble	—	0·06	—

Summary.

Water and volatile matter (loss at 100° C.)	33·35	38·05	35·70
Solid matter	66·65	61·95	64·30
Organic constituents	65·51	60·60	3·0
Inorganic components	1·14	1·12	1·1
In the original substance. Nitrogenous matters	3·75	4·75	4·25
In the original substance. Non-nitrogenous organic components †	56·73	50·93	53·83
In the original substance. Fat	5·01	5·38	5·20
In the dried substance. Nitrogen	0·89	1·21	1·05
In the dried substance. Nitrogenous substances	5·63	7·66	6·64
In the dried substance. Non-nitrogenous constituents	85·12	82·21	83·66
In the dried substance. Fat	7·55	8·66	8·10
Nutrient ratio*	1 17½	1·11½	1·14½
Nutrient value †	68·8	59·6	64·2

* Ratio of nitrogenous components to carbohydrates, excluding cellulose but including fat calculated into its starch equivalent.
† The sum of the percentages of nitrogenous substances, sugar, dextrin, starch, and fat, calculated into its starch equivalent.

The proteids were practically entirely soluble in water. Alcohol was present in each case but in traces only. The cellulose was higher in B than in A, probably because the seeds had not been so carefully removed from the raisins. It appears that, although most agreeable as an article of food, plum-pudding is not quite so concentrated a form of diet as has been supposed and conjectures that it yields as much sustenance as beefsteak are certainly not supported by its chemical composition. The amount of nitrogenous matter is only moderate and it must be remembered that in calculating the nutrient ratio and value all the nitrogen has been assumed to be albuminoid. Probably the true albuminoids, and consequently the food value, are slightly lower than would appear from the results. Also, the percentage of water is rather large and the quantities of the remaining components are proportionately lessened. It is not easy to compare precisely other articles of diet with plum-pudding as regards nutrient value but probably dried figs and dates approximate to it somewhat closely.

BIRTHS IN WORKHOUSES.

THE zeal of boards of guardians does not always take satisfactory directions but an agitation now in progress which has for its object the removal from pauper children of the disability which publication of the fact of their having been born in a workhouse entails seems deserving of support. Some months ago the Coventry guardians suggested to the Registrar-General that births in their workhouse should be recorded as taking place at "6, London-road," but it was objected that such a proceeding would introduce difficulties in the compilation of statistics as to births in workhouses. The idea was not, however, allowed to drop and as other boards, for instance, those of Hampstead and Leicester, made similar requests further consideration has been given to the matter. On Nov. 20th the Registrar-General received a deputation from the Coventry board and expressed sympathy with the arguments laid before him. Still more recently, on Dec. 2nd, a more thoroughly representative deputation, consisting of a vice-president and several members of the council of the Poor-law Unions' Association, including Mr. Crooks, M.P., interviewed the Registrar General who said that he joined in the desire of the boards to remove the stigma of workhouse birth in the same way as had been done in the case of births in prisons. It would be necessary to obtain the leave of the Local Government Board and as there was no legal difficulty in the way he would endeavour to obtain such leave if he found on further consideration that the matter could be carried out. He added that the subject had been mooted at an opportune moment as he was now engaged in revising the regulations issued to the registrars. Objection has b

taken to the proposed change on the ground that it would tend to increase the number of women who go to the workhouse for their confinements. This is possibly the case but even so it does not militate against the scheme to any serious extent. There can be no doubt that the present mode of registration may materially prejudice the interests of workhouse children in later life. A "birth certificate" is in constant demand as proof of age and if it calls attention to the fact that the holder was born in a workhouse may raise obstacles in the way of obtaining employment or may even constitute among the thoughtless a social drawback, involving much injustice. It is idle to expect to eradicate without years of education the vulgar snobbishness which cannot recognise that "the man's the gowd" but it may be possible to avoid stimulating its display and the suggested change in the mode of registering births will help to that end.

CONFLICTING MEDICAL EVIDENCE.

THE *South African Medical Record* for November contained an outspoken and not altogether uncalled-for article upon the unsatisfactory conditions under which medical practitioners are called upon to give evidence in courts of law, conditions which are characterised as in the highest degree humiliating and even demoralising to the medical profession. The *South African Medical Record* refers to an unusually large number of actions for damages arising out of alleged negligence recently instituted in the Supreme Court of Cape Colony, but the subject is one which needs no special occasion to render it of importance. Actions such as those referred to, actions relating to life assurance, actions in which physical or mental capacity is in dispute, and charges of murder and of other crimes, are familiar to us all in which judges and juries have before them witnesses of high standing in the medical profession. In such cases it is not uncommon to find the witnesses upon the one side giving with more or less confidence evidence directly opposed to that which is sworn to on the other. It must be observed that the conflict of testimony thus produced is not confined to the medical evidence but is observable in that of eye-witnesses or professed eye-witnesses of the facts in dispute who, so far as their circumstances are concerned, might be expected to be no less free from prejudice or from liability to error than medical men. The medical witness is, for the most part, an expert giving evidence of opinion which his training enables him to do, and if two men may differ upon the causes and details of an accident which both of them had seen two other men may at least as excusably differ with regard to the effect and duration of the injuries which the accident is alleged to have caused. The solicitor on the one side or the other naturally avails himself of such opinions as he may find to coincide with the interests of his client. The undesirable feature to which the *South African Medical Record* draws particular attention arises, however, not from the conflicts which to a large extent appear to be unavoidable, but from the fact that the task of deciding between two contradictory opinions is intrusted to a jury of laymen under the direction of a judge who has had no more medical training than those whom he has to guide to a verdict. The remedy suggested by the *South African Medical Record* would seem to lie in the appointing of medical assessors to advise the judge and mention is made in this connexion of the recent selection of a pathologist by the London County Council and to its desire that London coroners should employ him for the performance of post-mortem examinations in cases of doubt or difficulty. This, however, is hardly to be regarded as an instance of what has been or might be done in the direction indicated. The pathologist who makes a necropsy for the purpose of an inquest is merely a witness; he does not advise the coroner who is very often himself a medical man, and at inquests the opportunity for contradictory medical testimony seldom arises. An instance in England of the medical assessor might rather be found in the medical referees appointed under the Workmen's Compensation Acts where the damages awarded are measured by the period of disablement. An example of aid afforded to judges of the High Court in an easily determined class of case where technical knowledge is required is afforded by the Trinity Masters who sit as assessors in the Admiralty Division. In some foreign countries there is provision for medical assessors or for official medical witnesses and the practical working of the systems in vogue can therefore be studied. It must be remembered, however, that there are reasons to be urged against, as well as in favour of, employing a medical man or medical men to decide where their professional brethren disagree. The witnesses who differ are frequently men of the highest qualifications and of the strictest integrity, who hold honestly divergent opinions and the task of distinguishing between them would often be both difficult and invidious. The jury system is by no means a faultless one but to speak generally the 12 citizens in the box enjoy the confidence of the suitors and although judges sometimes express their disapproval of the verdicts given few judges would care to have cast upon them the onus of coming to a conclusion of fact in all cases without the jury's aid. The question is one, however, of admitted importance and interest in the settlement of which the medical and the legal professions will perhaps some day be able usefully to coöperate.

THE NEEDS OF THE MODERN HEALTH RESORT.

UNDER the above title Dr. Leonard Williams delivered an interesting address on Dec. 15th to the members of the East Sussex Medico-Chirurgical Society. Dr. Williams laid it down as a canon that a health resort, besides possessing mineral or sea water, should also possess a definite climate, whether bracing, relaxing, or intermediate. He also, we are glad to see, mentioned that climate from a medical point of view did not merely mean meteorological conditions but effects upon human beings. There is no doubt that the words "bracing" and "relaxing" have very different meanings for different people. It is Miss Braddon, we think, who says in one of her novels that the first thing that the serpent told Eve was that the Garden of Eden was very relaxing and many people if they are ill, or bored, or worried, or have eaten too much, at once say that the place in which they are is relaxing. Some, again, consider a climate like that of the eastern coast of Yorkshire in the spring bracing, while others find that a combination of bright sun and an east wind that cuts like a razor renders them miserable. Such people find a South Devon place a paradise, in which, however, members of the former class would sigh for fresh air. Dr. Williams further said that the modern health resort cannot rely upon climatic conditions alone. Rational amusements should be provided, sanitation, not only of the town as a whole but of all the private houses, should be rigorously enforced, and the bathing establishments, whether sea or mineral water, should afford every facility for obtaining modern treatment. With these remarks we are quite in accord and Dr. Williams might have added that any health resort to be worthy of the name should prohibit street shouting, German bands, and piano organs from making life unbearable. Dr. Williams concluded his address with some wise remarks to practitioners in health resorts. They should, he said, speak with no uncertain voice upon the regimen to be followed by visitors, and especially upon the diet. This, we consider, is excellent advice. No one could eat the same style of food at

Strathpeffer as at Bournemouth but no definite rules have been laid down upon the subject. Altogether the address should prove of use to those who heard it if they only take its advice to heart.

THE REGIUS PROFESSORSHIP OF MEDICINE AT OXFORD.

Sir John Burdon Sanderson, who has been Regius Professor of Medicine in the University of Oxford since the retirement of Sir Henry Acland in 1895, has intimated his intention of resigning the post on account of his advancing years. Sir John Burdon Sanderson had always intended to resign on reaching the age of 75 years and within a few weeks he will have attained the age in question. The retiring Regius Professor, before his election to the post which he is now resigning, was well known as a physiologist and as an authority on public health. In his early days he was one of the medical inspectors of the Local Government Board. He was Professor of Physiology at University College, London, from 1874 to 1882, and from 1882 to 1895 he was Waynflete Professor of Physiology in the University of Oxford. In 1883 he served on the Royal Commission on Hospitals and in 1900 on that appointed to inquire into the question of tuberculosis. Since his tenure of the Regius Professorship the Oxford school of medicine has greatly increased in importance. The holder of the professorship has now anything but a sinecure and whoever be elected to the post will have no easy task before him. To follow in the steps of two such able men as Acland and Burdon Sanderson calls for talents of no mean order while the increasing demands and influence of the Oxford medical school require not merely one with a grasp of modern medicine but also one who can take a broad and statesman-like view of the principles and influence of the medical sciences. While wishing Sir John Burdon Sanderson many years' enjoyment of a well-earned rest we may also hope that a successor may be found worthy to follow those who have preceded him in the honourable office of Regius Professor of Medicine in the University of Oxford.

HÆMOGLOBINURIC FEVER.

WE have received a pamphlet entitled "Hæmoglobinuric Fever, its Distribution and Etiology," by Mr. J. Wallace Collett, medical officer, Southern Nigeria. During recent years much light has been thrown upon the etiology of malaria and other tropical diseases but comparatively little is known concerning the causation of hæmoglobinuric or blackwater fever. In this brochure Mr. Collett reminds his readers that at the present time two theories are propounded as to the etiology of this disease, one being that there is a relationship between blackwater fever and malaria, and the other, initiated by Veretas and Tomaselli and revived by Koch, that blackwater fever is nothing more nor less than poisoning by quinine. Mr. Collett gives his reasons for believing that neither of these theories satisfies the demands of science "sufficiently to be placed upon the category of probable facts or even plausible speculations." He considers, however, that there are several occurrences, both clinical and within the pale of bacteriological research, which would appear to encourage the idea that blackwater fever, if not a disease *sui generis*, is at least intimately connected with a class of diseases due to the infection of the system by a poison probably of a protozoal nature. Mr. Collett then proceeds to make some remarks on the probable nature of the toxin in this disease. He draws attention to the action of hæmolysins and naturally suggests that with a view of discovering the cause of hæmoglobinuric fever it becomes necessary to look for a lysin which can produce the symptoms of the disease and which is not found in other pathological conditions. This is the proper course to pursue when searching for a pathogenic organism as a causal factor in any particular malady. Mr. Collett then refers to the bacillus megatherium which was first discovered in a fermenting infusion of cooked cabbage leaves and afterwards in samples of papain and infusions of hay, grass, and other vegetable matters. This bacillus has been proved to possess distinct hæmolytic powers. In alkaline broth, grown at a temperature of 99° F., this property is strongly developed and it has now been shown to be due mainly to an extrabacillary elaboration termed distinctively megatherio-lysin. Mr. Collett very rightly points out that the occurrence of the bacillus megatherium in decaying vegetable matter is a fact full of significance for West Africa where vegetation is so rankly luxurious. This organism has generally been considered as non-pathogenic but it has now been proved to be capable of elaborating products which, in susceptible animals, possess the power of bringing about such profound blood changes as hæmoglobinuria. His suggestion, therefore, that there may be a causal relationship between this bacillus and hæmoglobinuric fever is a plausible one but further investigation is, of course, necessary before any definite assertions can be made.

THE FIRST INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

THE First International Congress of School Hygiene will be held at Nuremberg from April 4th to 9th, 1904, and communications have already been announced from many well-known authorities on the education and sanitary up-bringing of children. Professor Cohn (Breslau) will discuss, What has Ophthalmology done for School Hygiene and what has it still to do? Professor Axel Johannesen (Christiania) will describe the State of School Hygiene in Norway; Dr. Le Gendre (Paris), President of the "League of Physicians and Families," will discourse on the Hygiene and the Personal Diseases of Teachers; Dr. Sickinger, Ph.D., chief inspector of the board schools of Mannheim, will take as his subject the Organisation of Elementary Schools based upon the Natural Capabilities of the Children; Professor Liebermann (Budapest) will define the Duties and Training of Medical Officers of Schools; Professor Hueppe (Prague) will read a paper on the Prophylaxis of Infectious Diseases in Schools; and Professor Eulenburg (Berlin) has chosen a rather gruesome theme, the Suicides of Scholars. Communications from all interested should be addressed to Herr Max Versen, editor in chief of the *Fränkischer Kurier*, Nuremberg.

A HISTORICO-MEDICAL EXHIBITION.

Mr. Henry S. Wellcome informs us that in commemoration of the fact that a quarter of a century has elapsed since the firm of which he is the head was founded he has decided to hold in London an exhibition in connexion with medicine, chemistry, pharmacy, and the allied sciences. "The exhibition," he says, "will be strictly professional and scientific in character. It will be my aim to bring together a collection of historical objects illustrating the development of the art and science of healing throughout the ages." Mr. Wellcome recognises that the success of the undertaking will largely depend upon the coöperation of those who are interested in these subjects. He is therefore issuing a circular which indicates the range of the intended exhibition. It is proposed to collect and to display all sorts of rare and curious objects relating to medicine, chemistry, pharmacy, and the allied sciences. The exhibits will be classified under seven sections:—

Section 1.—Paintings, drawings, engravings, photographs, medallions, and sculptures of historical interest of—(A) distinguished physicians, surgeons, alchemists, apothecaries, chemists, nurses, &c.; (B) ancient

British and foreign medical, chemical, and pharmaceutical institutions; and (C) important events of medical, chemical and pharmaceutical interest. Section 2.—Rare and curious manuscripts, books, periodicals, pamphlets and book-plates on, and connected with, medical, chemical, pharmaceutical, and allied scientific subjects. Section 3.—Letters, prescriptions, autographs, records of experiments, diplomas, licences, instruments, apparatus, and other personal relics of medical, pharmaceutical, and chemical interest; apparatus associated with important discoveries in medicine, chemistry, and pharmacy. In Section 4, under the style "Curiosities of Medicine," will be shown: (A) Materia medica of all ages (specimens of ancient medicines in all forms); (B) formulæ of all ages; (C) ancient and modern medicine chests—civil, military, and naval; (D) votive offerings for health, ancient and modern amulets, medals, seals, emblems, charms, and talismans; medical relics of savage and primitive peoples; (E) corporate insignia and diplomas of British and foreign colleges of physicians; (F) rare and curious memorials of medical practice; (G) memorials of medication by animal substances; and (H) memorials of the influence of astrology on medicine. Section 5 will be for curiosities of surgery—(A) relics of ancient and mediæval surgery, dentistry, and veterinary surgery; (B) ancient and mediæval hospital equipment; (C) curious anatomical models; (D) historical surgical instruments, appliances, &c.; and (E) corporate insignia and diplomas of British and foreign colleges of surgeons. Section 6 will be for curiosities of pharmacy—(A) quaint pharmaceutical recipes; (B) scales, weights, and measures of all ages; (C) ancient stills, mortars, and pharmaceutical implements; (D) curious bottles, carboys, alembics, ointment jars, drug jars, ewers, mills, &c.; (E) curious laboratory apparatus; (F) ancient prescription books and price lists; (G) ancient counter bills, labels and curious advertisements; (H) ancient pharmacy signs, early shop fittings, and appliances; (I) early pharmaceutical specialities and specimens of obsolete and curious medical combinations; and (J) old travellers' advice books, curious orders, &c. Section 7 will be for curiosities of allied sciences: (A) ancient herbaria, abnormal plant forms; (B) curious magnetic and electrical appliances; (C) early photographic prints and apparatus; (D) historical chemical apparatus; (E) anatomical exhibit; (F) anthropological exhibit; (G) microscopical exhibit; (H) bacteriological exhibit; (I) biological exhibit; (J) physiological exhibit; and (K) geographical exhibit.

If any of our readers possess any of the articles mentioned Mr. Wellcome hopes that he may count upon their assistance by lending them to him. His letter to us concludes: "I need hardly say that great care will be taken of all objects sent on loan and they will be insured. If desired, I will also insure specially valuable articles while in transit. Packing and carriage, both ways, will be paid by me. Hints and suggestions in connexion with the exhibition will be much appreciated." Such an exhibition can hardly fail to be of great interest to all medical men.

DEATH REGISTRATION IN THE UNITED STATES OF AMERICA.

BY a recent mail we have received from America a series of Government pamphlets issued by the United States Census Office with the object of promoting uniformity in the medical certification and classification of causes of deaths throughout the republic. From the preface to a "manual of classification" included in this series we learn that although civil registration of deaths has been already organised in many of the American States there are still a considerable number in which this provision—which in England we regard as essential to public safety—has not yet been established. It must, however, be recognised that in a republic consisting of many autonomous and practically independent States there are serious difficulties in the way of securing the necessary uniformity of law as well as of practice. Another difficulty which it will take some years to remove consists in the unsettled state of medical education and qualification which at present prevails in many parts of America. In Washington and in some other Transatlantic cities we believe that medical qualification, not less than medical practice, is satisfactorily regulated by law; but, unless we are misinformed, this is by no means the case in many other parts of America. Not until it becomes illegal, or at any rate discreditable, for an unauthorised person to assume the title and function of physician or surgeon will it be possible to provide for the due organisation of the medical profession throughout the United States and for the protection of the people against quackery and imposture. An important forward step has, however, been made and we heartily congratulate the census authorities of Washington on the energy and public spirit which they have shown in dealing with a complex but most necessary project for the welfare of the American people. The system of classification which has been adopted by the census authorities appears to be a modified form of the classification of Dr. Bertillon of Paris. It remains to be seen whether or not that system will be found to need revision from time to time. For our own part we should have thought that in a country in which the attempt is being made to establish for the first time a uniform record of vital statistics a shorter and far simpler list of diseases would have been more appropriate. In addition to the "manual of classification" of causes of death the series of census publications to which we have referred contains the following: (1) practical suggestions concerning a "standard certificate of death," with directions for its use and for the compilation therefrom of permanent records of mortality; (2) remarks on "the relations of physicians to mortality statistics"; (3) suggestions as to the statistical treatment of causes of death; and (4) details of legislative requirements for the registration of vital statistics. We have not space to notice these pamphlets severally in detail but from the rapid survey of them which alone has been possible we think that they are well calculated to further the objects which the census authorities have in view. In conclusion, we may express a hope that in course of time the national registration of causes of death in America will be accomplished with an accuracy approximating to that which has already been attained in many of the countries of Europe.

THE *Deutsche Medicinische Wochenschrift* has issued a festival number on the occasion of Professor Koch's sixtieth birthday, to which such leading bacteriologists have contributed as, among others, Professor Löffler, Professor Metchnikoff, Professor Roux, Professor Ronald Ross, and Professor A. Celli. Lord Lister has written a letter to the editor expressing his high appreciation of Professor Koch's scientific work and his regret that the state of his health will not permit him to make a longer communication to the festival number.

THE secretary of King's College Hospital has received a communication from the trustees of the Annie Zunz fund intimating their willingness to contribute £10,000 towards the removal fund "on the usual conditions of the bequest." The trustees imply that further contributions will be forthcoming towards the equipment and maintenance of the "Annie Zunz Ward."

THE authorities of Christ's Hospital have, it is stated, decided to sell the whole of the remainder of their site to the Post Office. This scheme if carried through will obviously prevent any local extension of St. Bartholomew's Hospital except in the direction of the sky, as suggested by Mr. J. Y. W. MacAlister.

HIS MAJESTY THE KING has been graciously pleased to permit Dr. James Donelan to accept and to wear the insignia of a Chevalier of the Order of the Crown of Italy, recently conferred on him by the King of Italy in recognition of his services as one of the physicians to the Italian Hospital.

A TELEGRAM from the Acting Governor of the Mauritius received at the Colonial Office on Dec. 18th states that for the week ending Dec. 17th there were 83 cases of bubonic plague and 49 deaths from the disease.

THE plans for the erection of the Royal Army Medical College on the Thames Embankment at Millbank have, we understand, now been formally approved.

THE Local Government Board for Scotland intimates that during the period from Dec. 1st to 15th inclusive 96 cases of small pox have been reported.

THE RESEMBLANCES BETWEEN THE CELLS OF MALIGNANT GROWTHS IN MAN AND THOSE OF NORMAL REPRODUCTIVE TISSUES.

Professor J. B. Farmer, F.R.S., Mr. J. E. S. Moore, F.L.S., and Mr. C. E. Walker communicated a paper to the Royal Society on Dec. 10th in which they gave the results of their joint investigations into the nature of malignant growths occurring in man. The account of what the authors have observed will be considerably elucidated by a brief recapitulation of the different ways in which the cells of an organism proliferate, as the value of the deductions from their observations depends to a great extent upon the differences between the manner in which the somatic cells—that is, the cells forming the ordinary tissues of the body—and those which are destined to form reproductive tissue divide. To emphasise the similarity existing between malignant tissue and the normal tissues of the sexual reproductive glands the authors propose to introduce the term "gametoid" to express the former and "gametogenic" the latter. When the egg of an animal or plant segments so as to give rise to an organism the nuclei of all the cells are found, when dividing, to contain a definite number of rod-like bodies known as chromosomes, this number remaining constant throughout subsequent divisions. Besides remaining constant in number, however, the chromosomes pass through a very definite series of evolutionary changes. At first the material out of which the chromosomes originate appears as granules of stainable substance (chromatin). Then, after certain characteristic stages, this substance takes the form of chromosomes, of which the number proper to each animal or plant is constant. During the process of division each of these chromosomes

FIG. 1.

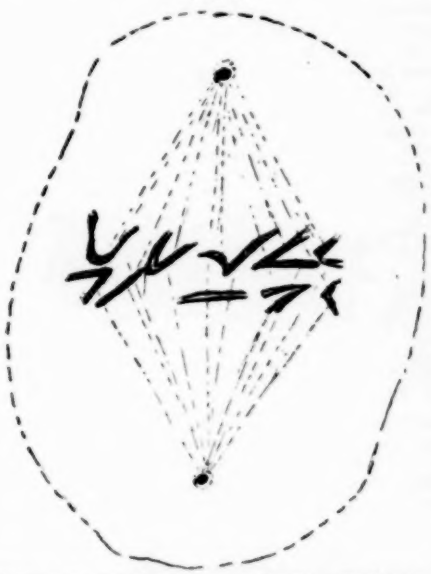

Diagram of a somatic division, showing the split chromosomes, the halves of which form the daughter nuclei. The full number of the chromosomes is not shown.

splits longitudinally into two daughter chromosomes which at this period are arranged in a very definite manner upon the spindle, frequently appearing as V's with the apices towards its axis (Fig. 1). The daughter nuclei are formed by the distribution to either pole of the spindle of the respective halves of each original chromosome. The nuclei thus formed may now enter upon a period of rest. Whenever new *somatic* cells are formed in the body the nuclei pass through identically similar phases. But in every individual there are certain cells which eventually give rise to the gametogenic elements, not to the specialised somatic tissues. Such cells, whether they appear early in embryonic life, or later during the life of the individual, always present very marked difference in their mode of division and in their subsequent history. These differences first become apparent as the cell commences its preparation for division. Those cells which are about to produce the gametogenic elements present a highly peculiar appearance, and at a definite stage in the multiplication pass through a cycle of changes wholly different from that passed through by the cells of the surrounding tissue and also from the changes occurring in those cells from which they themselves have sprung.

To the particular form of division (mitosis) associated with this metamorphosis the term "heterotype" has been applied and it is a characteristic and interpolated stage in the reproductive cycle of all sexually propagating animals and plants. Cells from which the heterotypically dividing elements will finally emerge can often be distinguished from those which will produce somatic tissues. In the testis of a mammal or in the sporogenous tissue of a stamen the existence of these cells may be recognised with ease and certainty. They continue to multiply and though differing from the adjacent cells in many respects resemble them in their mode of division until they pass severally into that peculiar state of growth that ushers in the heterotype division. The essential features in which this heterotype mitosis differs from the somatic mitosis (that of the cells forming the soma or body of the plant or animal), as well as from those in the cell generations of the reproductive tissues that have preceded it, are as follows: 1. A period of rest and growth. 2. The chromosomes when they are formed from the resting nucleus are present in only half the number of those occurring in the rest of the dividing nuclei of the organism. 3. The forms exhibited by the chromosomes are strikingly different from those of other nuclei. They present figures resembling loops, rings, aggregations of four beads, and so on. 4. They are arranged longitudinally upon the spindle. Their division on the spindle is apparently always transverse and not longitudinal, for even in examples where the separation might be interpreted as longitudinal fission the process as actually passed through differs markedly from the ordinary longitudinal fission exhibited by the chromosomes of every other mitosis. It will thus be seen that the heterotype mitosis is an easily recognisable phase in the history of the development of the gametogenic cells (Fig. 2).

It is a fact of the highest importance that when once heterotype division has supervened all the descendants of that cell in normal cases retain the reduced number of chromosomes, the cycle closing with the formation of the definite sexual cells. It is on the fusion of two of these cells (ovum and spermatozoon) that the double number of chromosomes is restored, and this number is characteristic of the fertilised egg and of all the cells to which it gives rise until the heterotype mitosis again supervenes in the gametogenic tissues. After the intervention of the heterotype division the cell in which it has occurred may, after one further division, give rise to four sexual cells, as in the higher animals. On the other hand, in the majority of plants a varying number of cell generations with the reduced number of chromosomes may be intercalated before the final differentiation into the sexual elements. The organism thus arising is very commonly parasitic in character, invading the somatic tissue of the plant.

A systematic investigation of the cytological features of malignant growths in man, conducted by the authors, has revealed the existence of a surprising degree of similarity between the phases that characteristically recur in these growths and the transformations from somatic into reproductive cells as just described. Thus in a typical example of epithelioma they found that in the early stages of proliferation of the Malpighian layer the cells of the invading tissue at first pass through a cycle of somatic divisions, exactly as occurs during the early stages of the formation of normal gametogenic tissue. As cell multiplication proceeds, however, a change passes over the cells themselves. The protoplasmic continuity, to which their "prickly" character is due, becomes obliterated and the cells assume that appearance of indifferent germ tissue so well known as a feature of the elements of which malignant growths are largely made up. Besides this a varying number of cells were observed,

often situated in an ill-defined zone behind the growing edge of the advancing neoplasm, which had attained somewhat large dimensions. Each contained a nucleus which had grown to a considerable size. In those which had entered upon a prophase of division it was

FIG. 2.

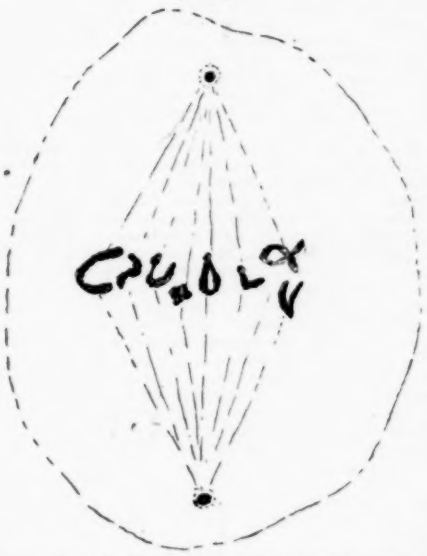

Diagram of a heterotypical division, showing the characteristic rings and loops which split transversely to form the daughter elements. As in the former figure the full number of chromosomes is not shown.

recognised that the chromosomes instead of appearing as delicate thin rods or V's split longitudinally, presented the appearance of short, thickened loops or rings, closely resembling the later prophase stages of the heterotype mitosis in the normal gametogenic tissues. Still more significant was the fact that in these cells the number of the chromosomes was obviously less than in the normal somatic cells or the surrounding tissues. In many cases it was determined that the numbers were approximately halved; and furthermore, it was clear that the loops and rings characteristic of this stage of the cellular development of malignant growths were arranged lengthways on the spindle and so were ultimately divided transversely, exactly as in the corresponding heterotype mitosis of the reproductive elements. Subsequent divisions appeared to resemble the somatic form but retained the reduced number of chromosomes (homotype division). The authors particularly emphasise the fact that the cells that they describe are in *no sense embryonic in character*, though they have so frequently been described as such in the past. Embryonic cells have the potentiality of the full normal number of chromosomes and exhibit them when in process of division.

Irregularities of various kinds are mentioned. Amitosis is said to be of frequent occurrence, as it is also, for instance, in the normal testis of a young monkey. The number of the chromosomes in the cells which had continued to divide mitotically frequently exhibited irregularities. The authors, however, claim that these facts do not seriously affect their position, for in many other cases similar irregularities occur in post-heterotype cells when these fail to give rise to actual sexual reproductive elements. They state that this description of cellular and nuclear changes applies not only to epithelioma but also in all important details to other carcinomata and to sarcomata. They explain that when during the process of development a considerable amount of somatic tissue is formed in a malignant tumour it is obvious that a corresponding proportion of the cells have never undergone heterotypical division. Thus in such tumours as scirrhus of the breast, cells showing heterotype figures are more difficult to find than is the case in rapidly growing tumours where but little somatic tissue is produced.

It is thus pointed out that in a most important respect the various malignant tumours present certain common features, and that these features are similar to those observed in the normal process of differentiation of reproductive cells. The authors feel themselves justified in deliberately correlating the appearance of these malignant growths with the result of a stimulus which has changed the course of somatic cell development into that characteristic of gametogenic tissue. They look upon this transformation as representing the immediate cause of the malignancy of the growths in which they are found. The remote causes must be sought amongst those various physiological stimuli—occasioned, e.g., by continual irritation—known to favour their development. They also consider that malignant growths are definitely distinguishable from benign tumours, for in the latter they have not succeeded in discovering anything resembling the very characteristic nuclear changes described above.

Such questions as the probable transmission of the disease and its prevalence in certain localities were merely touched upon. The authors, however, deemed it probable that actual contact may in some cases transmit the disease and it seems likely that this happens where living cells from the growth are transplanted to another part of the same individual or to another individual under very peculiar conditions which allow of the continuous application of a suitable stimulus and the continuous introduction of cells which have undergone heterotypical division—e.g., (1) the occurrence of a malignant growth in a wound inflicted during an operation performed to remove a pre-existing malignant growth in the same individual; and (2) epithelioma of the penis occurring in the husband of a woman suffering from carcinoma of the *cervix uteri*. In the case of localities where malignant growths are apparently prevalent—e.g., cancer houses—the phenomenon is directly comparable to the occurrence of abnormal cellular developments under suitable stimuli which have already been referred to.

In conclusion, the authors point out that the various changes described as occurring in cells are always rapid and are possibly hastened by the approaching death of the tissue. Unless, therefore, the tissues are treated in such a manner as to fix and to preserve the cells some time before death supervenes the nuclei will be found either in a state of rest or more or less disintegrated. They emphasise this fact because in the ordinary pathological methods of preparing specimens it has hitherto not always been thought necessary to make the proper provision for the preservation and fixation of the cells, either with regard to time or suitable reagents. Such preparations, though of course admirably suited for ordinary histological investigation, are not suitable for the elucidation of the finer cytological characters of the individual cells.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE following is a list of the grants and donations made by King Edward's Hospital Fund for London for the year 1903, with the comments of the distribution committee:—

Alexander Hospital for Children, £500; Belgrave Hospital, £750 to building; Blackheath and Charlton Cottage Hospital, £60 to equipment of operating-room; Bolingbroke Hospital, £1000—£500 to improvements; British Lying-in Hospital, £250; Cancer Hospital, Fulham-road, £200; Central London Ophthalmic Hospital, £200; Central London Throat and Ear Hospital, £200; Charing Cross Hospital, £2000 towards rebuilding fund; Chelsea Hospital for Women, £350; Cheyne Hospital, £100 in consideration of the fact that curable cases are admitted; City of London Hospital for Diseases of the Chest, £500 and £1500 annual to support beds reopened by the Fund: City Orthopædic Hospital, £250 annual to maintain beds reopened by this Fund (committee regret that this hospital has not yet consented to the proposed amalgamation); Clapham Maternity Hospital, £100; "Dreadnought" Hospital, £1500–£200 annual for general purposes, £1000 for Tropical Diseases Department; East End Mothers' Home, £200; East London Hospital for Children, £1600, provided isolation and whooping-cough wards are put in hand in 1904; Eltham and Mottingham Cottage Hospital, £50; Establishment for Gentlewomen, £250; Evelina Hospital, £250, to cost of out-patient department; French Hospital, £100; Friedenheim Hospital (an excellent institution); General Lying-in Hospital, £200; German Hospital, £150; Gordon Fistula Hospital, £50; Great Northern Central Hospital, £750–£750 annual to maintain beds reopened by this Fund; Grosvenor Hospital for Women and Children, £200; Guy's Hospital, £1000 and £5000 annual to maintain beds reopened by this Fund; Hampstead Hospital, £1000 to building fund; Home and Infirmary for Sick Children, Lower Sydenham, S.E., £100; Hospital for Consumption, Brompton, S.W., £1000 to country branch; Hospital for Diseases of the Throat, Golden-square, W., £100 towards fire apparatus; Hospital for Epilepsy and Paralysis, £350; Hospital for Sick Children, Great Ormond-street, £750 and £500 annual to maintain beds reopened

by this Fund; Hospital for Women, Soho-square, W., £1000 annual to maintain beds reopened by this Fund; Hospital of St. John and St. Elizabeth St. John's Wood, £500 annual to maintain beds reopened by this Fund; Italian Hospital, £500 annual to maintain beds reopened by this Fund; Kensington Dispensary and Children's Hospital, W. (not eligible as a hospital on present information); King's College Hospital, £6500 and £1000 annual to meet deficiency, £1500 for general maintenance, £5000 to the fund for removal of the hospital to South London which the committee view with great satisfaction; London Fever Hospital, Islington, N., £600; London Homœopathic Hospital, £200; London Hospital, £2000 and £5000 annual to meet expenditure out of capital made necessary by improvements in the wards; London Lock Hospital (Female), £600; London Temperance Hospital, £500 for out-patient department, conditional on the work being put in hand during 1904; London Throat Hospital, £50; Medical Mission Hospital (formerly entered as Cottage Hospital, Canning-town), Plaistow, £350—£250 to building; Memorial Cottage Hospital, Mildmay-park, N., £50; Metropolitan Hospital, £2000 and £500 annual to maintain beds reopened by this fund; Middlesex Hospital, £1500 and £1000 annual to meet deficiency (the committee note with satisfaction abolition of the practice of keeping butter in the lockers by beds); Mildmay Mission Hospital, £250; Miller Hospital, £1000 to building; Mount Vernon Hospital for Consumption (formerly entered as North London Hospital for Consumption), £500 and £1000 annual to support beds reopened by this Fund; National Dental Hospital, £50; National Hospital for Diseases of the Heart, £50 towards x-ray apparatus; National Hospital for the Paralysed and Epileptic, £750 and £750 annual to meet deficiency, £500 to improvements; National Orthopædic Hospital, £400 (committee view with satisfaction the amalgamation with the Royal Orthopædic Hospital); New Hospital for Women, £300; North-Eastern Hospital for Children, £1000 and £500 annual towards maintenance, £1000 for building; North-West London Hospital, £750 (committee urge the rebuilding of this hospital); Norwood Cottage Hospital, £50; Paddington-green Children's Hospital, £400; Passmore Edwards's Acton Cottage Hospital (committee are glad to say that it does not require help from the Fund this year); Passmore Edwards's Hospital, East Ham, £50; Passmore Edwards's Hospital for Willesden (committee are glad to say that it does not require help from the Fund this year); Passmore Edwards's Cottage Hospital, Wood-green, N., £50; Poplar Hospital, £500 annual to help to open closed beds; Queen Charlotte's Lying-in Hospital, £500; Queen's Jubilee Hospital, Richmond-road, S.W., £200 to building fund (committee consider a new hospital urgently required in this district); Royal Dental Hospital of London, £300 to debt on building; Royal Eye Hospital, £250; Royal Free Hospital, £2000 and £750 annual to meet deficiency, £1500 towards improvements; Royal Hospital for Children and Women, £1000 for building; Royal Hospital for Diseases of the Chest, £500 towards the open-air sanatorium; Royal London Ophthalmic Hospital, £2000 annual, £2200 donation to help to maintain the beds opened by this Fund (committee consider this hospital should receive more support from the public); Royal Orthopædic Hospital, £300 (committee view with satisfaction the amalgamation with the National Orthopædic Hospital); Royal Westminster Ophthalmic Hospital, £400 to debt; St. George's Hospital, £2000; St. John's Hospital for Diseases of the Skin, £50 to Shepherd's Bush Branch; St. John's Hospital, Lewisham, S.E., £100; St. Mark's Hospital, £100; St. Mary's Children's Hospital, Plaistow, E., £600; St. Mary's Hospital, Praed-street, £1000 and £1000 annual to meet deficiency; St. Monica's Hospital, £50; St. Peter's Hospital for Stone, £100; St. Saviour's Hospital, Regent's park, N.W., £100; St. Thomas's Hospital, £1800 to maintain the beds reopened; Salvation Army Maternity Hospital, £50; Samaritan Free Hospital £200 and £500 annual towards maintenance, £200 to new out-patient department; Santa Claus Home, Highgate, N., £50 in consideration of the fact that curable cases are admitted; South Wimbledon and Merton Cottage Hospital, £50 for operative appliances; Tottenham Hospital, £2000 and £1000 annual to maintain beds reopened by this Fund, £2000 to building; University College Hospital, £2000 and £1000 annual to support beds reopened by this Fund; Victoria Hospital for Sick Children, £300; West-End Hospital for Diseases of the Nervous System, £150 towards isolation ward; Western Ophthalmic Hospital, Marylebone-road, no grant (to be reconsidered when proper progress had been made towards collecting the rebuilding fund); West Ham Hospital, £2000 and £300 annual towards maintenance, £2000 building; West London Hospital, £1000 and £1500 annual to maintain beds reopened by this Fund, £1000 conditional on the bath-rooms, &c., on east side being put in hand at once; Westminster Hospital, £1000 and £750 annual towards deficiency; and Woolwich and Plumstead Cottage Hospital, Shooter's Hill, Kent, £50.

A special grant of £10 500 has been set aside to be drawn on as required for the amalgamation of hospitals.

The awards recommended for convalescent homes are as follows:—

Alexandra Hospital, Painswick, £50; Charing Cross Hospital, Limpsfield, Surrey, £50; East London Hospital for Children, Begnor, £100; King's College Hospital, Hemel Hempstead, £100; Mary Wardell Home, Stanmore, Middlesex, £50; Metropolitan Hospital, Cranbrook, £25; Metropolitan Convalescent Institution, Piccadilly, W., £200; Middlesex Hospital, Clacton-on-Sea, £100; Mrs. Kitto's Home, Reigate, £25; National Hospital for the Paralysed and Epileptic, East Finchley, £50; Paddington Green Children's Hospital, Slough, £50; Queen Charlotte's Lying-in Hospital, Kilburn, £50; St. George's Hospital and Atkinson Morley's Convalescent Hospital, Wimbledon, £50; St. Mary's Hospital, for Sick Children, Southend-on-Sea, £50; and Victoria Hospital Broadstairs, £50.

ASYLUM REPORTS.

London County Asylum, Banstead (Report for the year ended March 31st, 1903).—The average number of patients resident during the year was 2453, comprising 1076 males and 1377 females. The admissions during the year amounted to 503—viz., 271 males and 232 females. Of these 440 were first admissions. Dr. D. Johnston Jones, the medical superintendent, states in his report that as to the mental disorder of those admitted there were more cases of melancholia than in former years, 32 per cent. of the males and 40 per cent. of the females belonging to this class. Regarding causation alcoholic intemperance was the predisposing or exciting cause in 20 per cent. of the males and 12 per cent. of the females. The number of patients discharged as recovered during the year amounted to 210, or 8 5 per cent. of the average number resident. The deaths during the year amounted to 252, or 10·2 per cent. as calculated on the same basis. Of the deaths five were due to renal disease, seven to cancer 14 each to pneumonia and senile decay, 15 to epilepsy, 44 to pulmonary tuberculosis, 68 to general paralysis of the insane, and the rest to other causes. Among the minor casualties were six cases of simple fracture and two dislocations, all due to falls, and all were successfully treated. The general health of the institution has been satisfactory. Small-pox broke out in May and 12 patients were attacked. Two of these died and the rest recovered. "The disease was apparently introduced by a visitor to a sick patient in Ward A2 who had come from an infected district." "All cases of phthisis are now notified and kept as far as possible in one ward." The Commissioners in Lunacy state in their report that the general appearance of the patients was satisfactory, that the day-rooms were bright and cheerful, that the dormitories and bedding were clean and in good condition, and that the medical case-books and records were very carefully kept. The committee of management states in its report that the farm and field crops have all been good and that the total profit from the farm for the year has been £314. The amount expended on ordinary repairs executed at the asylum was £8080 and on additions, alterations, and improvements £388

Egyptian Hospital for the Insane, Cairo (Annual Report for 1902).—The report just published of the Egyptian Government Hospital for the Insane, Cairo, for the year 1902 states that the number of cases of insanity treated in the institution during the year amounted to 859. Owing to the increasing number of insane patients requiring admission Dr. John Warnock, the medical superintendent, states that the construction of a new asylum will be necessary. Owing to limited accommodation at present many unrecovered patients have to be discharged to make room for patients urgently needing admission, a condition which, coupled with the increasing numbers of the insane, is, says Dr. Warnock, "a menace to public security." "Many of the patients who are discharged while still insane proceed to beget families, ... thus swelling the ranks of paupers and transmitting their insanity to their children." Insanity in Egypt is regarded as a reason for marriage. "When a young man becomes insane one of the first steps often taken is to marry him to some woman who often becomes pregnant before her husband's insanity necessitates his confinement in the asylum." The Cairo Asylum is now lighted with electric light while its water-supply and ventilation are found to be both efficient and modern. Many useful handicrafts are taught in the institution such as cloth, basket, and mat making, while the more tranquil patients are employed in farming and gardening. Owing to the absence of special legislation for lunatics in Egypt the questions of care and treatment and of lunacy procedure rest on no certain basis and Dr. Warnock recommends that some legislation modelled on the line of the English Lunacy Act of 1890 should be introduced. The number of patients discharged as recovered during the year amounted to 120. The deaths during the year amounted to 67. Of the forms of insanity in the cases admitted the following occurred in descending order of frequency, viz.: acute mania (133 cases), insanity from hasheesh, chronic mania, pellagrous insanity, and melancholia (29 cases) out of a total number of 408 admissions. Among the more potent causes of insanity in the admissions Dr. Warnock enumerates hasheesh, hereditary predisposition, pellagra, syphilis, and alcohol.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Deputy Inspector-Generals: Howard Todd to Haslar Hospital (dated Dec. 5th, 1903) and W. E. Breton to Bermuda

Hospital (dated Dec. 16th, 1903). Fleet Surgeons: J. J. Dinnis to the Royal Marine Infirmary, Deal (dated Dec. 28th, 1903) and R. Miller to the *President*, additional (dated Dec. 16th, 1903). Surgeons: W. H. O. Garde to Haulbowline Hospital, G. Ross to the *Albion*, and J. A. Thompson to the *Drake* (dated Dec. 11th, 1903); D. W. Hewitt, lent for service at the Admiralty (dated Dec. 14th, 1903); T. D. Halahan, lent to Royal Naval Engineering College, Devonport (dated Dec. 10th, 1903); G. C. C. Ross to the *Hussar* on recommissioning and D. P. Chapman to the *Magnificent* (undated); G. C. Cross to the *Speedwell*, R. Kennedy to the *Hebe*, and J. H. L. Page to the *Spanker*, all lent (dated Dec. 16th, 1903). Civil Practitioner J. Kiffin to be Surgeon and Agent at Stokes Bay (dated Dec. 15th, 1903).

Deputy Inspector-General of Hospitals and Fleets Charles Cane Godding has been promoted to the rank of Inspector-General of Hospitals and Fleets in His Majesty's Fleet (dated Dec. 5th, 1903), Fleet Surgeon Howard Todd has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet (dated Dec. 5th, 1903).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned have been appointed Surgeons:—Mr. William James Tivy and Mr. Walter Kenneth Wills.

ROYAL ARMY MEDICAL CORPS.

Brevet.

The undermentioned Lieutenant-Colonel to be Colonel:—David Bruce, F.R.S., R.A.M.C., in recognition of his services in investigating the cause of the "sleeping sickness" in Uganda, as well as in consideration of the distinction already attained by him in researches connected with Malta fever and tsetse-fly disease (dated Dec. 10th, 1903).

Captain T. H. M. Clarke, C.M.G., D.S.O., from the Seconded List, to be Captain (dated Nov. 30th, 1903). Colonel J. F. Supple, C.B., is placed on retired pay (dated Dec. 14th, 1903). Lieutenant C. H. Robertson resigns his commission (dated Dec. 19th, 1903).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Home District (late Middlesex) Company: Supernumerary Lieutenant (Honorary Lieutenant in the Army) G. J. D. Davies to be Captain (dated Dec. 19th, 1903).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant A. Mackenzie, 3rd Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment), to be Surgeon-Lieutenant (dated Dec. 16th, 1903); Surgeon-Captain J. Shaw, having resigned his commission in the Volunteers, ceases to be an officer in the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: Surgeon-Major W. Fergusson to be Surgeon-Lieutenant-Colonel (dated Dec. 19th, 1903).

Rifle: 2nd Volunteer Battalion the Royal Warwickshire Regiment: Brigade-Surgeon-Lieutenant Colonel C. Dukes, Senior Medical Officer, Worcester and Warwick Volunteer Infantry Brigade, resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform on retirement (dated Dec. 19th, 1903). 3rd (Cambridge-hire) Volunteer Battalion the Suffolk Regiment: Surgeon-Lieutenant A. W. Clark resigns his commission (dated Dec. 19th, 1903). 4th (Perthshire) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant W. Haig to be Surgeon-Captain (dated Dec. 19th, 1903). 1st Volunteer Battalion Princess Charlotte of Wales's (Royal Berkshire Regiment): The undermentioned officer resigns his commission:—Surgeon-Captain W. G. Heasman (dated Dec. 19th, 1903).

VOLUNTEER INFANTRY BRIGADES.

Hampshire: Surgeon-Major E. J. Hunter, 3rd Volunteer Battalion the Hampshire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade (dated Dec. 19th, 1903).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS) (GLASGOW COMPANIES) ANNUAL.

The third number of this annual is in point of excellence no way behind its two predecessors. It deals with subjects of interest not only to the particular corps from which the annual takes its name but to Volunteer medical corps generally. In addition to the more weighty contributions, including papers on the Glasgow Division R.A.M.C. (V.) under Mobilisation, the Camp of the Transport Section at Aldershot, and the Camp at Netley, there are several articles and illustrations of a humorous nature. Among the illustrations are reproductions of photographs of Surgeon-General Sir William Taylor, K.C.B., Director-General of the Army Medical Service; Lieutenant-Colonel W. Babtie, V.C., C.M.G., Assistant Director-General; and Lieutenant-Colonel E. M. Wilson, C.B., C.M.G., D.S.O., Deputy Assistant Director-General. The price of the annual is 3*d.* and the publishers are Messrs. John Horn, Limited, 34, Howard-street, Glasgow.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF CERTAIN FORMS OF OBSTINATE CONSTIPATION BY ENTERO-COLOSTOMY.

To the Editors of THE LANCET.

SIRS,—With reference to your note on Mr. W. Arbuthnot Lane's case in which he effected "a lateral anastomosis between the end of the ileum and the first piece of the rectum" and thereby relieved a patient who was habitually constipated owing to intraperitoneal adhesions, may I point out that an operation of this kind might reasonably be tried in certain cases of chronic constipation in which no adhesions or other mechanical obstruction existed?

In the summer of 1901 I suggested an anastomosis between the lower end of the ileum and the sigmoid flexure in a case then under the care of Dr. Daniel Lehane of South Kensington as well as of Dr. W. Bezly Thorne. The patient, a tall, well-made young man, wished me to perform on one of his legs an operation which I knew would be futile and which was unnecessary. He was evidently suffering from neurasthenia and hypochondriasis and in danger of gliding into something worse. One feature of his case was most obstinate constipation. He was not willing to adopt commonplace and often effectual measures against that trouble and he was not only willing, but anxious, to have *some* operation performed. I suggested to him, without pressing, that I should short-circuit his intestine by uniting the lower end of his ileum to his sigmoid flexure. I thought this proceeding, by removing his constipation in a radical manner, would cause him to see life in a more roseate colour and dispose him to look less closely into his real or supposed bodily ailments. However, he found an eminent surgeon who operated for some small varicose veins. Of his ultimate state I have heard nothing.

I cannot help thinking that this mode of treatment should be seriously considered in the cases of many persons who combine obstinate constipation with the following conditions: (1) hypochondriasis and neurasthania, especially when, as in Dr. Lehane's and Dr. Bezly Thorne's patient, it borders on even a worse mental state and imperils the patient's position in his profession; and (2) some of those cases of chronic gastric trouble in young women in which intractable constipation is a marked sign and in which the presence of peptic ulcer is very doubtful. I am of opinion that in a few of these entero-colostomy would be better suited than a gastro enterostomy for their surgical treatment. The only case of gastro-enterostomy for non-malignant ulcer I have yet lost belonged to this class at the time of operation.

It is better to unite the ileum to the sigmoid flexure than to the rectum for the following reasons: (1) the sigmoid can usually be brought outside the abdomen and the operation of intestinal anastomosis is thereby made quicker, easier, and safer; and (2) if the junction is with the rectum occasions may occur when the patient will find it objectionable to have the liquid contents of the small intestine flowing into the rectum straight above the anus. The latter is, of course, an *a priori* consideration and experience might prove it erroneous, but of the advantage of delivering the intestine externally before suturing it there can be no question. There remains the question of lateral *versus* "end-to-side" anastomosis. That could be settled finally by experience only, but "end-to-side" would prevent fæcal

matters from passing into the transverse colon and loitering there.

I would like to direct the attention of physicians of lunatic asylums to the above remarks, though I am afraid that in doing so I risk the suggestion from some of my high Tory friends that this attention should be directed to the writer as well as to his letter.

I am, Sirs, yours faithfully,

Grosvenor-street, W., Dec. 16th, 1903. C. B. KEETLEY.

HETEROGENESIS.

To the Editors of THE LANCET.

SIRS,—As no one can have read Dr. Charlton Bastian's article in THE LANCET of Oct. 21st, p. 1220, with more interest than myself I trust he will accept my apologies if, in the letter in which I ventured to comment on some of its points, I have in any way misrepresented his views and statements. In the light of Dr. Bastian's letter to THE LANCET of Dec. 12th I have re-read his original article and I hope you will be able to allow me an opportunity of explaining how my misconceptions of his meaning arose. Dr Bastian, in the first place, is surprised that I should doubt his belief that "tubercle bacilli may, and do, act as veritable contagia." Now on page 1223, after arguing from an analogy which he considers conclusive that the tubercle bacillus may arise *de novo*, he proceeds to characterise its presence in certain diseased joints and glands as "a product rather than a cause of certain inflammations." I am free to confess that I was not prepared for the view which he thus apparently holds, that the same micro-organism can in one case produce the disease and in another be produced by it.

With regard to the specificity of the organism described by Dowdeswell as occurring in "Davaine's septicæmia," when Dr. Bastian asserts that "it is said never to have been recognised in the outside world apart from such (i.e., putrid) blood" he is referring to what was said in 1884 by Dowdeswell who could not then cultivate the organism he described. The proof of its non-occurrence outside putrid blood and of its specificity, therefore, requires strengthening by experiments on more modern lines than were possible in 1884. I take it that Dr. Bastian would be the last to allow that morphological appearance is a sufficient test of the identity of an organism. Dr. Bastian considers that to state that a bacillus present in the intestine may wander through its admittedly damaged walls is an "assumption without proof." But when it is known that an organism exists *inside* the gut and when after damage to, or death of, the gut it is found *outside* it in the peritoneum the assumption that it has passed through the intervening tissue into the latter locality certainly seems to me easier than the assumption that it arose there *de novo*.

In Sir John Burdon Sanderson's subcutaneous injections in 1872 with chemical irritants, although it is true that the syringe and injection fluid were sterilised, there is no mention of the animal's skin, from which infection might have taken place either at the time or subsequently; in fact, nothing is more difficult than to prevent organisms which surround the animal and are present on and in the skin, hair, &c., from infecting a damaged portion of the surface. Moreover, Sanderson and Klein merely describe the organism found as a "bacterium, the number and characters of which varied," and there is nothing to prove its specificity in either of the papers to which Dr. Bastian alludes. Dowdeswell in 1884 used the peritoneal way only, not making any subcutaneous injections, and obtained an organism which appears to have been the bacillus œdematis maligni.

I was led to suppose that Dr. Bastian considered the organisms of Davaine's and Pasteur's septicæmias altered forms of the same original microbe by his remark that the "two forms of septicæmia are produced by the inoculation of the same putrid material into different sites" (p. 1221). But I now see that by the words "*the same putrid material*" he means one containing at least two different organisms in unknown and variable proportions, and his "trans-mutation hypothesis" only implies the heightened virulence which has long been known to occur after the passage of an organism through the animal body.

In conclusion may I say that I shall read Dr. Bastian's forthcoming work with great interest, and I hope with an open mind, knowing well that but few theories can explain all the ascertained facts and that our adherence must be given in a provisional spirit only to that one which for the time being explains the majority of them.

I am, Sirs, yours faithfully,

J. M. FORTESCUE-BRICKDALE, M.A., M.D. Oxon.

Clifton, Dec. 14th, 1903

WATER-CRESS AND TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—Referring to the annotation in THE LANCET of Dec. 12th, p. 1671, on Enteric Fever spread by Water-cress, will you allow me space to make a few remarks. There is surely no disease about which there has been so much loose talk as in connexion with the origin and spread of typhoid fever. My old friends Murchison and Hart believed, the one that the disease arose from "dirt," was pythogenetic, and the other that it was most frequently connected with polluted water, being, let us say, hydrogenetic. In other instances Hart was, however, on surer ground when he set its origin down to milk, or lactogenetic. 40 years ago, or just about the time when Jenner proved the distinction between typhus fever and typhoid fever, I saw enough to be convinced that the disease as I knew it, and as the laity believed, was spread by infection from person to person.

This doctrine, which during the interval has been scouted as baseless, has now gradually got a footing. Indeed, the possibility of infection from person to person has been allowed to be a *vera causa* even by some of the strongest advocates of water- and sewage gas-borne typhoid fever. And now that it has been proved, more especially by Koch, that ambulatory or unrecognised cases of typhoid fever are quite frequent, it is surely logically incumbent on anyone investigating the origin of a particular epidemic to exclude this as at least a probable cause when considering another as the real and original factor. Returning to the figures as given in your annotation what do we find? If eating water-cress was the real reason of the outbreak surely the first evidence would require to be that everyone attacked partook of the article in question. On the face of it, only little more than one-half did so. Surely this fact is enough of itself to condemn the hypothesis that water-cress was the vehicle of the poison. Again, were the inhabitants in the areas in the vicinity of Clarence-road and Orchard-street the only persons who were served with this particular sample of water cress, or was it only at the particular periods referred to that the water-cress was infected by sewage contamination? Logically we want proof carefully collected and set out on all these points.

Then, again, is it not in the highest degree suspicious of the possibility of water-borne typhoid fever that the specific bacillus has never once been demonstrated as present in any single sample of suspected water? The records of our art, alas, are too full of blunders, and even fatal blunders—as witness the malign influence of the hereditary theory of the origin of tuberculous diseases—for us to rest satisfied with merely plausible theories.

I have endeavoured to raise doubts as to the truth of our beliefs of the water-borne theory of the cause of typhoid fever and shall probably find myself denounced as heterodox and heretical. But truth must prevail and in this case, as in most others, with a more correct appreciation of its real germinal origin will come more complete methods of dealing with—nay, even of stamping out—this terrible and fatal disease. I am, Sirs, yours faithfully,

WILLIAM BRUCE,
Medical Officer of Health of Ross and Cromarty.

Dec. 21st, 1903.

THE BORDERLANDS OF INFECTIOUS DISEASES AND THEIR MANAGEMENT.

To the Editors of THE LANCET.

SIRS,—In all salient points in this question it is a great satisfaction to find an authority of such repute as Dr. E. W. Goodall in agreement with me.

The purport of my remarks concerning the different coloured spectacles through which we all look at the various matters in this life, arose from the diametrically opposite points that the same infectious diseases, as seen by observers such as Dr. Hubert Biss and myself, are presented to view.

For Dr. Goodall's supposition is correct that my study of these diseases differs from that of Dr. Biss in that my observations have been principally based on those furnished by 700 adolescents between the ages of nine and 19 years.

In my expression "breeding true" I take exactly the same conception as Dr. Goodall in all his points, which I need not now reproduce. The question of the influence of fever hospitals is a burning one at the present time. There is little need for the inquiry which Dr. Goodall suggests I ought to have made; for one has only to keep one's eyes and ears open to ascertain what has been happening and which would be difficult to elicit by inquiry—in fact, the information is forced upon one from various sources. That some of these municipal fever hospitals are constructed *secundum artem* and managed with discretion goes without saying. But it is appalling to read such confessions as those of Dr. Biss in his most valuable article, "that the constant breaking out of scarlet fever in diphtheria wards and of diphtheria in scarlet fever wards in most instances is traced to some individual the equivocal nature of whose illness had caused its real bearing to be overlooked." What an indictment against the construction, or management, of these hospitals! I had no conception that the facts were as bad as this. I am not surprised at parental concealment of infectious disease when such a prospect awaits them. Will Dr. Goodall allow me, for the purpose of argument, to place him in the position of one of the public, and then ask him if he thinks the expressions I used and which he resents are one whit too strong? He has an ailing child of his own which his doctor certifies to the medical officer of health as scarlet fever, who orders his removal to the fever hospital. It chances to be one of those equivocal cases which it is impossible to diagnose, but which, nevertheless, owing to its similarity to diphtheria, is unfortunately placed in a ward where there is diphtheria. There it acquires a second infection and is either severely ill or dies. I feel sure that he will admit that this is a calamity causing such solicitude as to necessitate strong language.

With reference to Dr. Biss's contentions. 1. I can only assert that owing to the overwhelming evidence afforded by bacteriologists I do regard the *cause of "an infectious disease as an entity in itself, something foreign and external"* which has gained entrance to a patient and is accountable for his state, which disease we are able to diagnose or not according to the manifestation of the symptoms engendered thereby. Whether we are able to diagnose it does not alter the fact or nature of the disease. It may depend on our own incapacity, however skilful we may be, because of the very slight deviation from health rendering it impossible. But the disease breeds true (I adhere to this expression as conveying most accurately what is understood in common parlance, although Dr. Biss deems it more appropriate for the "dog-fancier's yard") when it has the opportunity. If an agriculturist take some grains of wheat and place one in each of four different soils there will be considerable difference in the ensuing ears, but each ear will be an ear of wheat and not one of barley, oats, or rye. And if the poorest and *least* recognisable sample subsequently be grown in the soil *most* adapted to its cultivation an unequivocal sample will be the result. 2. Perhaps Dr. Biss can point out instances where his borderland cases are to be found for I have never come across any of this description. 3. It seems, on the face of it, remarkable that Dr. Biss does not recognise the poisons which generate infectious diseases. Is it credible that he does not admit that bacilli are the cause of cholera, plague, tuberculosis, diphtheria, scarlet fever, and small-pox? 4. I regret that I am not prepared to follow the lead of Dr. Biss and support Dr. C. K. Millard, for whom I have the greatest respect, in his proposal for an inquiry into fever hospitals, inasmuch as his aim is to end these valuable institutions, whereas mine is to mend them. Moreover, I regard it as the duty of each municipality to endeavour to set its own house in order, to vie with each other in construction, management, and medical efficiency to obtain satisfactory results, as I have no doubt many are doing, rather than to have an inquiry as to their closure. Then those which are inefficient will close by virtue of their own inaptitude, unless the State intervenes and does it for them.

Where I would mend them is in these particulars: (1) Provide sufficient *single quarantine wards* for the admission of equivocal cases where they would be detained until they can be diagnosed, or if this be impossible where they can be isolated until they can safely return to their homes; (2) provide *wards for isolation* during the actual illness; and (3) provide *convalescent wards* to which convalescents can be transferred as soon as the illness is over where they can pass their convalescent stage until they can safely be set at large. We should then cease to hear of "return cases" of scarlet fever.

These are merely the construction necessities. It is impossible in this letter to recount the infinite number of minute details essential in their management, such as cubic space, fresh air, conscientious nursing, and separation of nurses, &c., so well known to all who have to deal with infectious diseases.—I am, Sirs, yours faithfully,

Rugby, Dec. 18th, 1903. CLEMENT DUKES.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A New Hill Station for Bengal.—The Plague Epidemic.—The Smoke Nuisance in Calcutta.

BENGAL has felt for a long time the want of another hill station in addition to that of Darjeeling, and the development of Kurseong has at last supplied the deficiency. The Government of Bengal has issued a resolution embodying a scheme of municipal reform. A new road one and a quarter miles in length is to be constructed running through Kurseong and joining the Darjeeling Himalayan road. A club house is to be built as the want of a suitable one deterred many from visiting the place. Sites for buildings hitherto unattainable are to be secured. The lower elevation, the proximity to so many large tea estates, and its convenience of access will be sure to develop Kurseong into a popular health resort. Another station which deserves to be popular is Hazaribagh but it is so far from the railway that few people visit it. At an altitude of about 2000 feet, with a dry climate, beautiful scenery, and shooting in abundance, there is no wonder that an attempt has been made to secure it as a resort for consumptives and other invalids.

The mortality from plague throughout India is steadily becoming greater and last week the deaths amounted to 18,360, a rise of 1354 on the previous seven days and a very serious increase as compared with the 10,441 deaths recorded for the corresponding week of last year. The detailed figures are: Bombay Presidency, 10,285; Bombay city, 56; Bengal, 469; Calcutta, 16; Madras Presidency, 242; United Provinces, 1021; Central Provinces, 2490; Mysore State, 623; Hyderabad State, 962; and Central India, 942. No figures are returned for the Punjab but the disease still lingers in Kashmir, Ootacamund, Karachi city, and Rajputana. In Mhow, where plague has raged more severely than in any other place in India, the outbreak is subsiding. Over 5000 deaths in a population of about 30,000 tell their own tale. Plague is very bad in Nagpur city and rabbits, pigs, squirrels, bandicoot rats, cats, dogs, and common rats are reported to have also died from plague. In Kamptee the disease is so virulent that a sixth of the native population, so it is reported, has died from it. The provincial papers report a recrudescence in Poona and later returns indicate a re-development in Bengal and Calcutta. One by one the Provincial Governments get their experience of plague administration and successively modify their measures as others have done before them. The latest pronouncement comes from the Punjab and a resolution of the Lieutenant-Governor expresses regret that the plague measures hitherto adopted have failed to exert much influence on the course of the epidemic and orders the cancelling of certain rules and the relaxation of others. Again we hear that the executive civil officers are to be relieved of the routine work which is now to be intrusted to the medical department. The new orders deal with administration and control of the plague department, the nature of the measures to be adopted, obligation to report cases, warnings of fresh outbreaks, inoculation, chemical disinfection, and the destruction of rats—all of which means that except for inoculation and the destruction of rats the expected recrudescence will have unrestricted sway, and as both these measures will be only very partially carried out just as they have been elsewhere we may have a further opportunity of studying the natural course of the epidemic.

In Calcutta the new plague administration has recognised the value of inoculation and has publicly announced facilities for taking advantage of its benefits. The apathy of the people is so extraordinary that inoculation is not expected to be carried out on a large scale but convenient opportunities of being inoculated are to be provided, and that is a considerable advancement on previous policy.

The smoke nuisance has of late years become almost as great in Calcutta as in some of the manufacturing towns of England and an expert has recently submitted a report concerning its abatement. The excessive smoke in Calcutta is mainly due to the mills and the factories and it is estimated that 3·2 tons of solid carbon are emitted every 24 hours within a radius of five miles from Government House. There seems to be no remedy except by legislation and rules are suggested with regard to the various furnaces, fires, and chimneys. As the corporation is an offender equally with the factories it is probable that the Government will be compelled to take the matter in hand. The evil is increasing and is at present absolutely uncontrolled.

Nov. 27th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Disqualification of a Medical City Councillor.

Dr. C. A. Hill, who was elected a member of the city council for Abercromby Ward at the recent November elections, was subsequently disqualified owing to an unfortunate technicality. Dr. Hill held the appointment of lecturer on hygiene to the pupil teachers in the service of the late Liverpool school board, the functions of which had been taken over by the education committee of the city council. The fact of his being ineligible (by reason of his holding that office) as a candidate for civic honours did not occur to him until after the result of the election. He has since formally resigned his seat and it is not expected that he will be opposed on again seeking the suffrages of the electors of the ward. He has also resigned his lectureship.

Jottings from the Health Committee.

The health committee of the city council has recently sustained a severe loss by the death of Alderman Herbert Campbell, which occurred suddenly on Dec. 8th while engaged in a visit of street inspection.—Alderman Dr. Thomas Clarke has resigned the chairmanship of the port sanitary and hospitals committee, a post which he has filled with much credit to himself and advantage to the city for the past eight years. Pressure of professional duties led to his resignation.—The health of the city continues good. The deaths from zymotic diseases during the week ending Dec. 12th show the lowest rate of mortality from this class of disease during any one week for the last ten years. The prevalence of small-pox in Smyrna has during the last few months been a source of much anxiety to the port sanitary authority, five vessels in succession bringing cases of small-pox from that port. At the present time the city remains free from the disease, a suspected case being isolated.—A change in the *personnel* of the housing and insanitary property committee has recently taken place, the chairman and deputy chairman having resigned their positions.

Birkenhead and Wirral Children's Hospital.

Owing to the recent extension of this hospital the committee announces that funds are earnestly needed. The hospital is doing a most useful work and deserves support. In 1902 the number of in-patients was 540 and the out-patients numbered 6434. The expenditure last year was £1625, as against £1325 in 1884 when the number of in-patients was only 286.

Dec. 21st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Epidemic of Small-pox.

THE counties of Northumberland and Durham are at the present time suffering from a rather serious epidemic of small-pox. Most of the cases have been traced to tramps coming from other districts, pointing to the necessity not only of the registration of tramps, but also of some restrictions to the admission of unvaccinated tramps into common lodging houses and workhouses. During the current year there have been well over 100 cases in the city of Newcastle, while the number of cases in the country districts of Northumberland has greatly exceeded this figure. In Gateshead the epidemic seems rather to be increasing than diminishing, because the number of cases at present in the Sheriff Hill Hospital is about 40 and fresh cases are being admitted almost every day.

Newcastle City Hospital for Infectious Diseases.

Owing to the rapid growth of the city of Newcastle since the present hospital at Walker Gate was built the city council has now under consideration a scheme for the enlargement of this hospital, not only to meet present requirements but also to be prepared with sufficient accommodation in case of any sudden emergency. It is proposed to spend the sum of £53,000 on these extensions, which will include increased accommodation for both free and paying patients and a separate block for the reception and discharge of patients.

Annual Dinner of the Past and Present Students of the College of Medicine, Newcastle-on-Tyne.

The above annual dinner is arranged to take place at the County Hotel, Newcastle-on-Tyne, on Friday, Jan. 29th, 1904, at 7.15 P.M. Professor F. Page will occupy the chair, while the warden of the University of Durham (Dean Kitchin) and other eminent guests are expected to be present. It is hoped that as many past and present students of the college as possible will endeavour to attend.

Dec. 21st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Increased Cost of Cardiff Paupers.

Mr. F. T. Bircham, the Poor-law inspector for South Wales, more than a year ago animadverted upon the alarming increase in the expenditure of the Cardiff board of guardians, with especial reference to the cost of relieving the outdoor poor. In ten years the population of the union had increased by about 25 per cent., but the number of outdoor paupers had increased nearly 60 per cent. and the expenditure had gone up from £14,706 to £26,175, equal to an increase of about 90 per cent. From the remarks which were made by the same inspector to the members of the Cardiff board on Dec. 5th last it would appear that the expenditure in the union is still much higher than it should be, for while the amount of pauperism has decreased to the extent of 4 per cent. in South Wales and Monmouthshire there has been an actual increase of 14 per cent. in Cardiff, where also the expenditure has increased 66 per cent., compared with an increase in the larger area of only 10 per cent. Mr. Bircham advised the board to equalise the size of the relief districts and to see that there is a sufficient number of officers to carry out the work properly, for every officer should have time to investigate all his cases. He thought that scores of people would be found in the Cardiff union receiving relief who should not receive it and he reminded the board that the more strict it was with the undeserving cases the more money it would have for the deserving ones.

Bristol Corporation and Winsley Sanatorium.

When the scheme for the establishment of the Winsley Sanatorium was projected the corporation of Bristol became responsible for a proportion of the cost by contributing a capital sum of £1000 and by undertaking to pay a further sum of £260 annually. For these payments four beds are to be reserved for Bristol patients, but it was considered at the time when the arrangement was made that this number would be utterly inadequate to the needs of the city and there was a disposition on the part of several prominent members of the health committee to establish a sanatorium exclusively for Bristol patients. In January of this year the medical officer of health, Dr. D. S. Davies, submitted a report on the subject in which he stated that the cost of erecting a sanatorium varied from £200 to £300 per bed and that the weekly cost of maintenance for each patient would be from 35*s.* to 45*s.* The cost therefore of erecting a sanatorium for 50 patients—the maximum number Dr. Davies considered desirable to treat in one building—would be from £13,000 to £15,000, and

these sums if borrowed and repaid in 30 years would entail an annual expenditure of about £700 and £800 respectively. The annual cost of maintenance would amount to about £4000. A subcommittee very carefully considered this report but eventually recommended the corporation to contribute a further capital sum of £4000 and an annual sum of £1040 to the Winsley sanatorium on the understanding that 20 beds should be allotted to the city of Bristol. The corporation has adopted this recommendation but with the right to transfer its interest in the institution if it so desires.

Superannuation of Dr. H. T. Pringle.

The committee of visitors of the Glamorganshire County Asylum has fixed Dr. H. T. Pringle's superannuation allowance at £1000 per annum. Dr. Pringle has been connected with the Bridgend asylums for more than 37 years, during the greater portion of which period he has been medical superintendent.

Swansea and the Spitting By-law.

The Swansea corporation has adopted the spitting by-law in the terms which the Home Office is now prepared to sanction: "No person shall spit on the floor, side, or wall of any public carriage, or of any public hall, public waiting-room, or place of public entertainment whether admission thereto be obtained upon payment or not."

University College, Bristol.

A year ago there was a debt of £5000 in connexion with the University College, Bristol, but this has been entirely liquidated owing in great measure to the efforts of the Bishop of Bristol who during 1902 was President of the University College Colston Society. Sir William H. Wills, Bart., and Sir Frederick Wills, Bart., M.P., each contributed £1000 towards the amount required. A further sum of £500 has now been received from the managers of the Exhibition of Welsh Industries recently held in Bristol, so that it is possible to complete the University buildings without increasing to any great extent the indebtedness of the governors.

University College, Aberystwyth.

Mr. R. H. Yapp, M.A., of Cambridge, has been appointed professor of botany to the Aberystwyth College of the University of Wales in succession to Professor J. H. Salter, D.Sc. Professor Yapp accompanied the Cambridge University scientific exploring expedition to the Siamese-Malay States in the year 1899.

Herefordshire General Hospital.

The late Mr. Attwood Matthews, who was the founder of the Alpine club, has left £5000 to the funds of the Herefordshire General Hospital to be paid on the death of his widow. The scheme for the collection of a penny each month from practically every cottage in the county has resulted in the accumulation during the past nine months of a sum of nearly £650 which is to be handed over to the managers of the institution.

Bacteriological Examinations.

The Wigmore (Herefordshire) rural district council, on the recommendation of the medical officer of health (Mr. J. A. T. Cartwright), recently asked the Herefordshire county council to follow the excellent example of the neighbouring county councils of Worcestershire and Shropshire and to make arrangements for bacteriological examinations to be carried out in cases of doubtful diphtheria, &c. The council, however, decided that there was not "sufficient warrant to recommend the expenditure of county funds in the way suggested."

Dec. 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Glasgow.

Dr. A. K. Chalmers, the medical officer of health of the city of Glasgow, in his report for the fortnight ending Nov. 28th, states:—"45 cases of small-pox were removed to hospital during the fortnight in place of 19 during the previous one. Ten of these cases were removed from formerly infected models and three others had been in models when infection occurred. Among the number were five children under ten years of age, in none of whom were vaccination marks discoverable. For comparative purposes it is desirable to group the distribution of the cases now occurring according to the old sanitary districts and this shows that of the total occurring during the fortnight 14 were in the eastern district, 12 in the central, nine in the south and south-suburban, seven in the north, and three in the west. Reference was made in the report for last fortnight to the difficulty in obtaining any extension of revaccination beyond the immediate neighbourhood of infected houses, but in view of the recurring excess (31 per cent.) of cases in the eastern district the inspectors were, after consultation with the chairman, distributed, whenever the demands of their own districts had been satisfied, throughout this district with directions to make a house-to-house visitation and offer revaccination wherever it was required. This effort so far has only been attended by a moderate degree of success; indeed, as our past experience shows, until something akin to apprehension takes possession of the public mind the numbers who will resort to revaccination from purely prudential motives are comparatively few. Everything at the moment points to a period of considerable anxiety during the ensuing months. The engineers of Tweedsmuir Waterworks, near Broughton, were good enough to inform me during the past week of the occurrence of small-pox among the navvies employed there and they also added that some 40 or so of the men had left their addresses unknown although they anticipated that some of them might reach lodging houses in Glasgow. Subsequently, three of these men presented themselves at one of the lodging houses and on being told that admission could only be had on condition that they would be revaccinated they left, refusing to give any address. The part played by this portion of the population in disseminating small-pox has frequently been under review and it would be to the public advantage if some legislative method of following or controlling their movements existed. Similar powers already exist in connexion with contacts with sea-borne infection of a certain type and it would only be an extension of an already recognised principle to apply similar powers to small-pox contacts under the circumstances alluded to."

The late Mr. Samuel Lawrence, M.D. St. And., L.R.C.S. Edin.

The death occurred at his residence, in John-street, Montrose, on the morning of Dec. 18th, of Dr. Samuel Lawrence at the advanced age of 88 years. The deceased gentleman was the oldest medical practitioner in Forfarshire, having retired from practice only a year or two ago. After serving for a period under a qualified medical man he proceeded in 1832 to Glasgow and went through a course of three sessions at the University there. On completing his studies he, in 1834, went on a voyage to the Arctic seas as surgeon on a whaling ship and in 1834-35 contemplated another voyage which, however, he abandoned in favour of an appointment as an assistant in South Shields. Three months later the Edinburgh College of Surgeons conferred upon him its licence, after which he and a fellow-student purchased their principal's practice and entered into partnership. Dr. Lawrence at that time was barely 20 years of age. Six years were thus passed, after which he went to Montrose in 1841, and for a period of 55 years was engaged in active practice. He was for a long time medical officer of the burgh of Montrose and a justice of the peace of the county of Forfar.

Dec. 21st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Cosmetics.

Professor Spiegler recently read before the College of Physicians a paper relating to the scientific principles of cosmetics. The following is a summary of his remarks. How widespread and how ancient is the desire to beautify the outward appearance can be seen by the fact that even cannibals paint their bodies with bright colours, that the highly cultivated nations of antiquity have embodied explicit cosmetic prescriptions in their literature, and that even to-day the province of cosmetics represents a playground for that charlatanism to which human vanity is constantly offering up new victims. In the way of cosmetics surgeons and orthopædists can do a good deal. Under the head of dermatology are included a number of external diseases the majority of which depend upon

anomalies of constitution and which therefore need a general treatment. Among these diseases acne vulgaris is most frequent. Patients suffering from this complaint invariably have a seborrhœic skin and many of them are somewhat anæmic. Constipation, too, is an etiological factor and there are many cases in which acne improves after massage of the abdomen or after internal medication with pulvis glycyrrhizæ compositus. It is well known that English women patronise sulphur on account of its complexion-improving qualities. The removal and prevention of intestinal decomposition are indispensable and therefore an abundant diet of fresh meat should be avoided. Strongly spiced dishes should likewise be forbidden. Local treatment is based upon the treatment of seborrhœa because dirt, dust, and the ubiquitous staphylococci adhere to the oily skin and are apt to produce an infection of the sebaceous glands. Large acne pustules should be opened. Acne rosacea is an illness of a more mature age than acne vulgaris; it is not always brought about by immoderate consumption of alcohol but frequently by disturbances of the digestion or at the climacteric. Hot fomentations for the purpose of restoring the tone of the blood-vessels should be employed locally. Anæmic young women and girls often have reddish or bluish-red noses which are moist and cool but on a change of temperature from cold to hot become hot and deep red; the same change is seen after meals and alcohol. Often the symptoms are due to slight congelations caused by wearing veils. The symptoms are based upon a local asphyxia caused by pareses of blood-vessels. The best remedy in this case is on the one hand prophylaxis (abolishing the veil), and on the other hand strengthening of the cardiac function and improvement of the anæmic state. The same state is observable in some young people in the fingers and the hands. Medical help is often required for pigmentations either on a physiological basis (pregnancy) or on a pathological basis. The increased pigmentation of the nipple diminishes in a short time in nursing women. Professor Spiegler reported the case of a lady who recognised her pregnancy before menstruation ceased through the increasing pigmentation of a nævus. Diseases of the female genitalia cause similar pigmentations. Some abnormal pigmentations are combined with liver complaints (cholelithiasis). Professor Spiegler has seen a patient with a characteristic pigment spot on the face which regularly disappeared after a course of treatment at Carlsbad and reappeared during the winter. The application of diluted acids, chlorine water (in severe cases), peroxide of hydrogen, or ointments of white precipitate is of use. The best prophylaxis against freckles is the wearing of red or reddish-yellow veils. Diseases of the hair and nails very often are in close connexion with internal complaints. Matsuura in Recklinghausen's Institute showed that in tuberculous or wasting diseases or in disorders of nutrition the hair gets thinner and later falls out. Likewise seborrhœa often causes the hair to fall out. The treatment of seborrhœa may in some cases improve and prevent the hair from falling out, but the seborrhœa remains improved only so long as the patient is under treatment. The great expectations which have been aroused for the treatment of hypertrichosis with Roentgen rays unfortunately have not been fulfilled and for the present the troublesome electrolytic treatment must be used for this purpose.

Dec. 21st.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

The Montreal League for the Prevention of Tuberculosis.

AN active campaign against tuberculosis is being conducted by the Montreal League for the prevention of that disease. Recently the establishment of a dispensary in the city has been under consideration and it is proposed also that the league should have a sanatorium erected on Trembling Mountain which is contiguous to the city. A suitable site has been selected consisting of 450 acres and overtures are being made to the provincial Government, the owners thereof, who are being asked to set apart this tract of land for the purposes indicated. Since May 15th last the league has dealt with 103 cases and during the month of November about 79 cases were being supervised. The league is fathering a by-law before the city council regarding the prohibition of the spitting nuisance in the streets and in theatres, halls, and places of public worship. It is expected that this by-law will pass through the council by a large majority.

The Ottawa Medico-Chirurgical Society.

The Ottawa Medical Society and the Ottawa Clinical Society have become consolidated and the result is the Ottawa Medico-Chirurgical Society which held its first regular meeting on the evening of Nov. 5th. Sir James Grant, M.D., is the honorary president and Dr. H. Beaumont Small is the president. The first evening's programme was largely given over to the presidential address delivered by Dr. Small. This consisted of a series of biographical sketches of Bytown's pioneer physicians, Bytown being the name of the capital of the Dominion of Canada prior to the seat of Government being established there in 1867 and the name changed to Ottawa. The address also dealt with the earliest outbreaks of epidemics and the histories of the different hospitals. The society meets on the first and third Thursdays of each month. The following are the officers in addition to those already mentioned: Vice-Presidents: Dr. C. P. Dewar and Dr. R. E. Webster. Secretary: Dr. C. H. Brown. Treasurer: Dr. H. S. Kirby. Curator: Dr. Gilbert Royce. Librarian: Dr. James Seager. Council: Dr. Horsey, Dr. R. S. Minnes, Dr. Troy, Dr. Echlin, Dr. Chabot, and Dr. Basken.

A Bureau of Health for the Dominion of Canada.

The Canadian medical profession through the medium of their national medical organisation are anxious that the Canadian Government should create a separate department of public health under the authority of one of the existing Ministers. The matter was first launched at the Montreal meeting of the Canadian Medical Association in September, 1902, when a resolution favouring the proposal was unanimously passed by that association. As health matters now stand orders are issued from several departments, such as Inland Revenue, Marine, Agriculture, &c. This is considered anomalous and it were far better that all these several branches should be grouped under the authority of a competent head. The Canadian Medical Association has a special committee, consisting of Dr. R. W. Powell of Ottawa and Dr. T. G. Roddick, M.P., and Dr. E. P. Lachapelle of Montreal, looking after the matter. It is understood that the Hon. Minister of Agriculture, under whose authority our Director General of Public Health now acts, is very favourable to the creation of this very important department.

Changes in the Quebec Medical Laws.

If the will of the College of Physicians and Surgeons of the province of Quebec can prevail with the Quebec legislature then the medical course in that province will be extended to five years. The College will also recommend that British licences will hereafter not be recognised as equivalent to passing the examinations of the College. It will also be recommended to the legislature that a B.A. degree of the *cours classique complet* should be adopted for matriculation, to apply, however, only to those studying in the French universities. The students of McGill University will not be particularly affected by this change.

Better Hospital Facilities required for Medical Education in Toronto.

Now that the two leading medical colleges of the province have become united in the city of Toronto and constitute the medical department of the Provincial or Toronto University the faculty is seeking better hospital facilities for clinical instruction. Towards this end a special committee of the faculty has been visiting the hospitals of leading American cities, such as Boston, New York, Philadelphia, Baltimore and Chicago, inquiring particularly into the conduct of the outdoor departments. The committee in charge of the matter recently met the boards of the Toronto General and St. Michael's Hospitals, at which meeting Dr. Rose Bradford, of University College, London, England, was present, and addressed the assembled gentlemen upon hospital work in London. As a result of the requirements of the committee the house staffs will be better regulated, clinical, outdoor, and pathological work will be put upon a better basis, and better records will be kept than heretofore. All that the committee asks for has been in vogue in the Sick Children's Hospital for some time.

The Birth-rate in Ontario.

The report of vital statistics for the province of Ontario for 1902 has recently been issued. It shows that there were 47 796 births during that year as compared with 46,061 in 1901, or an increase of 1735. The number of marriages in

1902 was 18,072, an increase of 37 over the previous year. The number of deaths during the year was 27,864, while in 1901 the figures totalled 29,608, showing the substantial decrease of 1744 Figured according to population the rate per 1000 of births was 21·1 in 1901 and 21·7 in 1902; of marriages in 1901, 8·2 and in 1902 8 2; and of deaths in 1901, 13·6, and in 1902, 12·6. Dr. P. H. Bryce, secretary of the Ontario board of health, attributes the increased birth-rate to the crusade instituted by the press of the country and the ministers of all denominations against race suicide.

Dec. 7th.

Obituary.

BERTRAM THOMAS READ, M.R.C.S. ENG., L.R.C.P. LOND.

THE death occurred on Dec. 12th of Mr. B. T. Read who had been for the last five years in practice at Odiham, near Winchfield, in Hants, and was much respected in the neighbourhood. After leaving St. George's Hospital, where he received his medical training, he acted as surgeon on the Royal Mail line for some time and eventually settled in Odiham, where he was rapidly making a good practice and held several appointments. On Monday, Dec 7th, he attended the funeral of a patient and after doing his morning round on the next day complained of acute abdominal pain. Peritonitis was diagnosed. His father, Mr. T. L. Read, saw him on Thursday with Dr. H. D. Rolleston and it was seen that an operation was the only chance. Late that night Mr. A. W. Mayo Robson performed the operation when ulceration of the appendix and perforation were found. The case was from the first a very severe one and in spite of all that skill and care could do the end came on Saturday morning, Dec. 12th. Mr. Read will be deeply missed by all who knew him and Odiham has lost a kind and skilful man who always placed his patients' welfare before all else.

DONALD J. A. MCLEOD, L.R.C.S. EDIN.

ON Dec. 5th there passed away, at the age of 77 years, at Hawick, Roxburghshire, this well-known and versatile practitioner of the Scottish borders. Mr. McLeod became L.R.C.S. Edin. and in 1849 settled in Hawick, whither he was attracted by a severe cholera epidemic and where he succeeded to the practice of Dr. Wangler. He held the offices of medical officer of the burgh and to the workhouse for many years. He was a certifying factory surgeon, surgeon to the police, parochial medical officer and vaccinating officer to several parishes, and held several other appointments in the town. His jubilee of medical practice in Hawick was celebrated in October, 1899, and he was then presented at a public banquet with a cheque and a silver tea service subscribed for by over 400 friends and also with a clock by his *confrères* in the medical profession. He came originally from the Hebrides of Scotland, his mother being one of the Campbells of Harris. He leaves a widow and a family of two who are grown up.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in December the following candidates passed in the subjects indicated :—

Surgery.—A. A. Angelis (Sections I. and II.), Athens; E. M. Cox, College of Physicians and Surgeons, New York; G. C. M. Davies (Sections I. and III.), Oxford and Charing-cross Hospital; A. H. Falkner (Section II.), Cambridge and St. Mary's Hospital; H. J. Gater (Sections I. and II.), Guy's Hospital; A. C. George (Section I.), Manchester; R. H. Rigby (Section I.), Leeds; F. Robinson (Sections I. and II.), Manchester; A. Rogers (Section I.), Cardiff and St. Mary's Hospital; D. A. Stepney (Section II.), Royal Free Hospital; and J. W. Watson (Section I.), Manchester.

Medicine.—C. C. Bernard (Section II.), Royal Free Hospital; E. M. Cox, College of Physicians and Surgeons, New York; G. Dewick, (Sections I. and II.), St. Thomas's Hospital; A. C. George (Section II.), Manchester; G. R. Hannon, King's College Hospital; W. Lovell (Sections I. and II.), St. Mary's Hospital; S. Northwood (Sections I. and II.), Birmingham; H. G. Peel (Sections I. and II.), Leeds; R. Reynalds (Sections I. and II.), Bristol; S. H. Ryan (Section II.), Manchester; D. A. Stepney (Sections I. and II.), Royal Free Hospital; A. C. Story (Sections I. and II.), St. Mary's Hospital; and A. Williamson (Section I.), Royal Free Hospital.

Forensic Medicine.—W. H. Bush, Guy's Hospital; E. M. Cox, College of Physicians and Surgeons, New York; G. R. Hannon and J. A. Kilpatrick, King's College Hospital; W. Lovell, St. Mary's Hospital; R. Reynalds, Bristol; R. H. Rigby, Leeds; L. C. A. Savatard, Manchester; D. A. Stepney, Royal Free Hospital; and A. C. Story, St. Mary's Hospital.

Midwifery.—A. Bernfeld, Royal Free Hospital; A. E. Bird, Manchester; E. M. Cox, College of Physicians and Surgeons, New York; W. S. Gibson, Manchester and Middlesex Hospital; J. C. Johnson, Middlesex Hospital; R. H. Rigby, Leeds; and L. C. A. Savatard, Manchester.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery; A. E. Bird, W. H. Bush, E. M. Cox, G. C. M. Davies, A. H. Falkner, H. J. Gater, G. R. Hannon, W. Lovell, S. Northwood, F. Robinson, S. H. Ryan, L. C. A. Savatard, and D. A. Stepney.

UNIVERSITY OF OXFORD.—At examinations for the degree of Bachelor of Medicine held in Michaelmas term the following candidates were successful :—

FIRST EXAMINATION.

Organic Chemistry.—Frederick James Aldridge, Magdalen College; Charles Newton Binney, Corpus Christi College; Robert Francis Bridges, University College; Harry Greenwood Butterfield, Wadham College; Richard Evans, M.A., Jesus College; Patrick Harvey Clive Fowell, St. John's College; George Herbert Hunt, Christ Church; John Frederick Penson, non-collegiate; Ernest Arthur Ramsden, New College; Owen Lambert Vaughan Simpkinson, Corpus Christi College; Herbert George Flaxman Spurrell, B.A., Merton College; and Bertram Alfred Wood Stone, B.A., Brasenose College.

Materia Medica and Pharmacy.—Owen Alfred Rowland Berkeley Hill, B.A., Trinity College; Stuart Seguin Strahan, Keble College; Wilfrid Wood Wells, Merton College; and Charles Frederick Marling West, Christ Church.

Human Anatomy and Human Physiology.—George Moore Johnson, B.A., Magdalen College; Otto Gustav Ferdinand Luhn, Christ Church; Arthur Salusbury MacNalty, non-collegiate; Henry Austin Philpot, B.A., New College; Charles James Pinching, B.A., St. John's College; and *Arthur George James Thompson, B.A., Queen's College.

* Offers human anatomy only, being exempt from examination in human physiology.

SECOND EXAMINATION.

Pathology.—George Basil Doyne Adams, B.A., Christ Church; Charles Harrison Barber, B.A., non-collegiate; Harold Abbott Barnes, B.A., Keble College; Gerald Exall Barry, B.A., Trinity College; Frederick Lucien Golla, B.A., and Arthur Frederick Hertz, B.A., Magdalen College; Arthur Conyers Inman, B.A., Wadham College; Perceval Aubertin Mansfield, B.A., Keble College; and Eric MacLeod Smith, B.A., Queen's College.

Medicine, Surgery, Midwifery, Forensic Medicine, and Public Health.—George Basil Doyne Adams, B.A., Christ Church; Charles Harrison Barber, B.A., non-collegiate; Edward Frederick Beaumont, B.A., Wadham College; William Edward Blackall, B.A., non-collegiate; Alexander George Gibson, B.A., Christ Church; Frederick Lucien Golla, B.A., Magdalen College; Conrad Meredyth Hinds Howell, B.A., Trinity College; Frederick Pitcairn Nunneley, B.A., Brasenose College; Paul Norman Blake Odgers, B.A., Lincoln College; Douglas Reginald Pike, B.A., Jesus College; and Edward How White, B.A., University College.

UNIVERSITY OF CAMBRIDGE.—At the examinations for medical and surgical degrees held in Michaelmas term the following candidates were successful :—

FIRST EXAMINATION.

Part I., Chemistry and Physics.—A. Abrahams, Emmanuel; F. S. Adams, Christ's; J. W. Adams and G. C. Alderson, Caius; B. W. G. Angus, Christ's; R. R. Armstrong, Trinity; H. A. Ash and H. L. Attwater, Pembroke; M. W. Baker, St. John's; E. Billing and C. J. Blaikie, Caius; C. L. Boulenger, King's; A. E. A. Carver and F. G. Cawston, Caius; A. J. Clark, King's; H. M. McC. Coombs, Emmanuel; F. C. Davies, J. R. Dick, and H. G. Earle, Downing; L. A. Exham, H. Selwyn; R. Fisher and J. T. Fox, Sidney Sussex; G. Gamlin, Pembroke; W. Gillison, Peterhouse; R. H. P. Hick, Christ's; R. F. Higgin, Caius; W. C. Hodges, Trinity Hall; A. N. Hodges, Queen's; C. C. Holman, Caius; J. S. Jobson, Sidney Sussex; M. Lea and R. J. B. Leney, Caius; R. L. Ley, Pembroke; J. C. Marklove, Caius; J. L. H. Mogg, B.A., Trinity; H. G. Monteith, Pembroke; V. H. Mottram, Trinity; H. M. D. Nicoll, Caius; L. B. Perry, Queen's; C. Raymond, Caius; H. G. Rice, St. John's; I. Singh, Pembroke; A. L. H. Smith, Caius; F. R. Thornton, Trinity; H. A. Treadgold, Downing; L. B. C. Trotter, Clare; R. J. Vernon, Caius; J. N. Wheeler, Christ's; and E. T. Willans, Emmanuel.

Part II., Elementary Biology.—A. Abrahams, Emmanuel; R. R. Armstrong, Trinity; C. J. Blaikie, Caius; C. L. Boulenger, King's; R. N. Chopra, Downing; A. J. Clark, King's; F. C. Davies, Downing; W. Denston, Christ's; J. R. Dick, Downing; E. A. Dyson, Jesus; H. G. Earle, Downing; J. T. Fox, Sidney Sussex; H. A. Hett, Trinity; W. C. Hodges, Trinity Hall; C. C. Holman, Caius; L. R. King, Pembroke; M. Lea, Caius; E. W. Nelson, Christ's; H. F. Percival, Trinity; L. B. Perry, Queen's; A. J. Rae, B.A., and A. C. Rayner, Caius; H. G. Rice, St. John's; L. M. Routh, Caius; H. W. Scott and R. B. Taylor, Clare; F. R. Thornton, Trinity; H. A. Treadgold, Downing; R. M. Vick, Jesus; and E. P. W. Wedd, Caius.

THIRD EXAMINATION.

Part I., Pharmacology and General Pathology.—E. D. Anderson, B.A., Pembroke; F. O. Arnold, Trinity; L. J. Austin, B.A., Sidney Sussex; I. G. Back, B.A., Trinity Hall; G. F. S. Bailey, B.A., Caius; A. L. Bailey, B.A., Emmanuel; A. E. Barclay, M.A., Christ's; S. Barradell-Smith, B.A., St. John's; J. R. Beale, B.A.,

Clare; J. H. Board, B.A., Pembroke; J. R. Briscoe, B.A., H. Selwyn; F. M. Bulley, M.A., Emmanuel; A. S. Burgess, B.A., Caius; C. Cassidy, B.A., Sidney Sussex; A. de C. C. Charles, B.A., Magdalene; H. J. Clarke, B.A., and C. St. A. Coles, B.A., Trinity; G. H. Colt, B.A., Sidney Sussex; G. L. Cox, B.A., and A. P. Day, B.A., Christ's; T. R. Elliott, M.A., Trinity; J. N. F. Fergusson, B.A., St. John's; H. R. Fisher, B.A., Emmanuel; R. E. French, B.A., King's; N. H. Gandhi, B.A., Caius; M. F. Grant, B.A., H. T. Gray, B.A., and C. R. F. Hall, B.A., Trinity; R. F. V. Hodge, B.A., Emmanuel; H. D. Hoffman, B.A., Trinity; V. C. Honeybourne, B.A., St. John's; W. R. Honeybourne, B.A., Peterhouse; C. W. Hutt, B.A., Trinity; J. H. Iles, B.A., Caius; F. A. G. Jeans, M.A., P. P. Laidlaw, B.A., and J. W. Linnell, B.A., St. John's; W. Lowe, B.A., Caius; A. H. Miller, B.A., Trinity; W. P. Morgan, M.A., Clare; H. E. H. Oakeley, B.A., St. John's; F. W. M. Palmer, B.A., Jesus; W. E. Paramore, B.A., and J. E. Pellow, B.A., St. John's; M. C. M. Pitkin, B.A., non-collegiate; C. W. Ponder, B.A., Emmanuel; D. W. Roy, B.A., and C. T. Scott, M.A., Sidney Sussex; K. S. Singh, B.A., and P. H. Smith, B.A., Pembroke; E. C. Sparrow, B.A., Trinity; C. Stanley-Clarke, B.A., Caius; C. M. Stevenson, St. John's; B. H. Stewart, B.A., Jesus; R. Wade, B.A., Christ's; G. H. B. Waylen, B.A., King's; G. L. Webb, B.A., Caius; J. K. Willis, B.A., Queen's; H. L. Wilson, B.A., H. Selwyn; N. Wilson, B.A., Pembroke; A. F. R. Wollaston, B.A., and V. J. Woolley, M.A., King's; F. Worthington, B.A., St. John's; E. A. Wright, B.A., H. Selwyn; A. Wylie, B.A., Pembroke; and S. L. O. Young, M.A., Christ's.

Part II. Surgery, Midwifery and Medicine.—E. Bigg, M.A., Caius; H. S. D. Browne, B.A., Trinity; C. Burrows, B.A., Emmanuel; N. C. Carver, B.A., King's; H. H. Clarke, M.A., Trinity; J. S. Cooper, M.A., Jesus; G. E. Davidson, B.A., Caius; G. B. Davis, M.A., Corpus Christi; S. Dodd, B.A., and J. R. Donnell, B.A., Caius; T. L. Drapes, B.A., and J. B. Dunlop, M.A., Sidney Sussex; H. R. Fisher, B.A., Emmanuel; W. S. Fox, M.A., Trinity; E. Gardner, B.A., Caius; C. B. Goulden, B.A., non-collegiate; C. F. Hardie, B.A., Queen's; P. Hardy, B.A., Trinity House; R. N. Hart, B.A., Sidney Sussex; G. S. Haynes, King's; F. A. Hepworth, B.A., St. John's; E. Higson, B.A., Magdalene; W. H. Hills, B.A., Pembroke; H. D. Hoffman, B.A., and H. M. Joseph, B.A., Trinity; P. A. Lloyd-Jones, B.A., St. John's; C. M. Murray, M.A., Pembroke; S. H. Nathan, M.A., and C. L. Nettvill, B.A., Trinity; B. H. Pain, B.A., Emmanuel; J. E. Pellow, B.A., St. John's; D. Pennington, B.A., Caius; H. J. Robinson, B.A., St. John's; H. C. Sidgwick, B.A., and J. G. Slade, M.A., Clare; S. J. Steward, Downing; W. B. Swete-Evans, M.A., Clare; E. J. D. Taylor, B.A., Caius; E. Ward, M.A., Clare; T. H. E. Watts-Silvester, M.A., Caius; A. F. R. Wollaston, B.A., King's; E. A. Wright, B.A., H. Selwyn; A. Wylie, B.A., Pembroke; and S. L. O. Young, M.A., Christ's.

TRINITY COLLEGE, DUBLIN.—At examinations held in Michaelmas term the following candidates were successful:—

Final in Medicine.—Frederick F. C. Willington, Charles E. Moore, Harry R. Nelson, Richard C. Hallowes, Thomas C. A. Sweetnam, Thomas J. Crean, Herbert Stone, and Cecil J. Wyatt.

Section B.—Wright Mitchell, Henry M. Crawford, Arthur A. M'Neight, Wilfrid Thunder, Hugh Stewart, William J. M'Iver, Robertson S. Smyth, Edward G. Scroope, Thomas Wilson, and John Chambré.

PRESENTATION TO A MEDICAL MAN.—Mr. R. Hamilton Ramsay, M.D., C.M. Glasg., on attaining his eightieth birthday recently, was presented with an inscribed rose bowl by the committee and playing members of the Torquay Athletic Football Club, of which he has been president for 30 years, and with a framed photograph of the committee of the Sick Gardeners' Relief Fund, of which he is also president.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—During the year 12 new members were elected, three died, and three resigned, the number of members being 296. Two widows and six orphans applied for relief, three widows died, and one orphan became ineligible. At the end of the year 53 widows and 15 orphans were in receipt of half-yearly grants. A sum of £3299 10*s.* was distributed during the year and the expenses were £246. At Christmas a present was made to the widows and orphans amounting to £583.

DONATIONS AND BEQUESTS.—The Bolton Infirmary and Dispensary will benefit by the sum of £500 under the will of Miss A. Mason of Horwich, Lancaster.—By the will of Miss M. W. Nash of Cork £300 are bequeathed to the Home for Protestant Incurables at Cork and £200 to the Victoria Hospital for Women and Children at Cork.—Miss E. A. T. James of Edgbaston has under her will bequeathed £1000 to the General Hospital and a like sum to the Queen's Hospital, the Eye Hospital, the Blind Asylum, and the Deaf and Dumb Asylum, Birmingham. The Bayswater Hospital for Consumption, the Cancer Hospital, London, and the Putney Hospital for Incurables also each receive £1000. The Leamington Hospital for Incurables will receive £500.—At the monthly meeting of the committee of the Plymouth Royal Eye Infirmary held on Dec. 2nd it was reported that an anonymous donor had given £1000 to the infirmary.—The Middlesex Hospital has received a further donation of £125 from Mr. Charles Davis and also a further donation of £60 to the Cancer Research Fund from Miss Fanny M. Marriage.

ROYAL INSTITUTE OF PUBLIC HEALTH.—At the Congress of the Royal Institute of Public Health to be held at Folkestone, July 22nd to 27th, next year, there will be a section for Child Study and School Hygiene. Dr. George Carpenter has been appointed London secretary and Dr. Percy G. Lewis local secretary. Gentlemen desirous of contributing papers should communicate with the local secretary. Those wishing to attend the Congress, who are not members of the institute, can do so by taking a delegate's ticket, price £1 1*s.*

BEQUEST TO JOHNS HOPKINS UNIVERSITY.—William Wyman, who died recently, has willed his estate valued at more than $500,000 (£100,000) to Johns Hopkins University upon the death of his daughter. Mr. Wyman a year ago gave an estate in Baltimore to the University, beginning the movement which resulted in obtaining a new institution and in the raising of $1,000,000 (£200,000) endowment fund. The land then given by Mr. Wyman was worth $250,000 (£50,000). There is no institution in America which is more deserving of support than Johns Hopkins University. As a scientific centre it is almost the equal of any in the world. The manner in which rich Americans give money for the advancement of scientific research is an object lesson to Englishmen and should result in lifting the United States to a very high position in this line of work.

THE annual dinner of the Royal Free Hospital and London School of Medicine for Women was held on Dec. 15th at the Hotel Cecil, Mrs. Garrett Anderson being in the chair. 300 persons sat down to the dinner and among the guests were Sir William and Lady Broadbent, Sir Owen Roberts, Sir Thomas Smith, Professor Tilden, Professor Westlake, and Mrs. Henry Fawcett. After the Royal toasts had been honoured Mrs. Anderson proposed as the toast of the evening "The Success of the School and the Royal Free Hospital." She spoke of the movement for the higher education of women, of which medical education was only a part, and contrasted the gathering of influential friends present at the dinner with her own isolation 40 years ago when she was allowed in her early student days to go to the Middlesex Hospital, partly as a nurse, partly as a student, and to learn what she could. She had, she said, to meet the strong unspoken disapproval of almost everyone there, from the senior members of the staff to the scrubbing maids, and though in a measure she was able to understand the feeling of the staff the contempt of the scrubbing maids was hard to bear. Having then described her difficulty in finding an educational body to examine her for a degree or a diploma Mrs. Anderson pointed to the quality of the work which is now being done by medical women in England who owed a deep debt of gratitude to the Royal Free Hospital, which institution was in urgent need of financial assistance. Mr. A. B. Barrow, senior surgeon to the hospital, and Mr. Stanley Boyd, senior lecturer to the school, responded to the toast. Dr. Raymond Crawfurd then proposed the health of "The Guests," coupling with the toast the names of Sir William Broadbent and Sir Thomas Smith. The secretaries of the dinner, Miss Douie, M.B., and Miss Crosfield, M.D., are to be congratulated on the excellence of all their arrangements.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMS, EVELYN GEORGE BEADON, M.B., L.R.C.P. Lond., F.R.C.S. Eng., has been appointed Medical Examiner of Recruits for the West Somerset Imperial Yeomanry.

ALCOCK, N. H., M.D. Dub., Demonstrator of Physiology at the University of London, has been appointed Lecturer on Physiology to St. Mary's Hospital Medical School.

CROSSE, R. S., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Mitford and Launditch Board of Guardians.

PAINE, GEORGE REUBEN ROBINS, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for Lympstone, Devon.

SCRASE, JAMES J. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Newton Abbot Workhouse.
SMITH, ERNEST G., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Out-patient and Dental Departments of the South Devon and East Cornwall Hospital, Plymouth.
WATSON, C. GORDON, F.R.C.S. Eng., has been appointed Assistant Surgeon to the Metropolitan Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident House Surgeon. Salary £100 per annum, with board, residence, &c.
ARMY MEDICAL SERVICE.—Examination of Candidates for not less than 30 Commissions in the Royal Army Medical Corps.
BRIXTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £150, with apartments, attendance, coal, and gas.
CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Surgeon-Accoucheur. Salary £100 per annum and fees. Also District Surgeon.
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium of £25.
LANARK, COUNTY OF, MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £140 per annum, with board, &c.
LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.
LIVERPOOL STANLEY HOSPITAL.—Honorary Physician.
LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon for six months. Honorarium at rate of £50 per annum.
MANCHESTER SOUTHERN HOSPITAL FOR WOMEN AND CHILDREN AND MATERNITY HOSPITAL.—Two Honorary Assistant Medical Officers. Also Anæsthetist. Honorarium £30 per annum.
METROPOLITAN HOSPITAL, Kingsland road, N.E.—Surgeon.
NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E. Medical Officer in Charge of Electrical Department. Salary £50 per annum, with lunch. Also Pathologist and Bacteriologist. Salary £50 per annum, with lunch.
POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months, renewable. Salary at rate of £80 per annum, with board and residence.
ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Honorary Surgeon.
ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Physiology. Salary £150 per annum.
SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.
SEAMEN'S HOSPITAL SOCIETY ("DREADNOUGHT"), Greenwich, S.E.—Junior Resident Medical Officer. Salary £40 per annum, with board, residence, and washing.
SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—House Surgeon. Salary £100, with board, residence, and washing.
STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.
SUSSEX COUNTY HOSPITAL, Brighton.—Third House Surgeon, unmarried. Salary £60 per annum, with board and residence
WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodgings, washing, and attendance.
WEST LONDON HOSPITAL, Hammersmith-road, W.—Pathologist. Salary £200 per annum.
WOLVERHAMPTON EYE INFIRMARY.—House Surgeon. Terms £70 per annum, with rooms, board, and washing.
UNIVERSITY OF LONDON.—Examiners.—Two in Medicine, Two in Surgery, One in Obstetric Medicine, Two in Pathology, One in Materia Medica and Pharmaceutical Chemistry, and One in Mental Diseases.
YORKSHIRE COLLEGE (DEPARTMENT OF MEDICINE), Leeds.—Junior Demonstrator of Pathology. Salary £120 per annum.

Births, Marriages, and Deaths.

BIRTHS.

BATEMAN.—On Dec. 17th, at Heath End, Blackheath, S.E., the wife of F. J. Harvey Bateman, M.A., M.B., C.M., of a son.
BRINTON.—On Dec. 19th, at Queen's-gate-terrace, S.W., the wife of Roland Danvers Brinton, M.D., M.R.C.P., of a daughter.

MARRIAGE.

AUSTIN—PUDDY.—On Dec. 19th, at St. Helen's Church, N. Kensington, by the Rev. F. Jomini, Elfred Chalmers Austin, F.R.C.S.E., M.R.C.S. Eng., eldest son of the late Edward Austin, of Kensington, to Irene, youngest daughter of C. H. Puddy, Esq., of 11, The Triangle, N. Kensington.

DEATHS.

PITTWAY.—On Dec. 15th, at 37, Warwick-road, Maida Vale, W., Dr. H. Edgar Lincoln Pittway, aged 37 years, suddenly, of heart failure. Late of Stansted, Essex.

IN MEMORIAM.

TOMLINSON.—On Dec. 22nd, 1902, at Maldon, Essex, suddenly, from pulmonary apoplexy, Thomas Tomlinson, M.R.C.S., L.S.A., aged 72 years.

N.B.—A fee of 1s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE LIGHT CURE AND ELECTRO-THERAPEUTIC INSTITUTE, LIMITED.

To the Editors of THE LANCET.

SIRS,—In justice to myself I am sure you will accord me a little of your valuable space in order to answer, as far at all events as I am concerned, your severe criticism *re* the above.

As the "brave man" referred to in your article on the subject, may I explain that the original idea of the directors was to open an institute where light baths especially could be obtained by the middle-classes at a fee commensurate with their purses and that I, having made a somewhat special study of this branch of electric therapy, was proposed as the medical officer of the institute. It was afterwards decided that other forms of electric therapy should be added to the work of the institute, but it was distinctly understood—and there is nothing in the prospectus to warrant any other construction—that no treatment was to be given without a prior consultation with the medical officer or unless the patient brought a prescription from his own medical attendant—that is to say, with the exception only of really healthy people who would take light baths as a luxury instead of the Turkish bath, the former of course being such a distinct advance on the latter. May I inform you:—

1. That before committing myself to the post I consulted a solicitor to one of the "defence unions" and that he was perfectly satisfied that there was no contravention of medical ethics in the matter.

2. I also consulted a well-known gentleman, one who is especially connected with questions of medical ethics. His reply was: "I see nothing unprofessional in the prospectus and wish that all these institutes were under medical supervision."

3. I failed myself to see anything "unprofessional" in my position any more than in the case where a medical man has an appointment to a hydropathic establishment, and, as you are aware, there are scores of medical men holding such appointments throughout the country.

4. I was actuated in taking the post by the very prevalent complaints of the profession generally that such institutes as proposed are so often run by "outsiders" and that, on the contrary, they ought to be under strict medical control.

5. However, to be on the safe side I sent in my notice of withdrawal from the company before, by the bye, your issue of the 12th, and this because in order to make doubly sure my position I had also asked the advice of eminent and honoured friends in the profession, and most of these advised me in my own interest to resign as it was their opinion that such a position would not enhance my social or professional status. At the same time most of them admitted that the Medical Council would not cavil at the situation any more than in the case of the hydropathic practitioners mentioned.

6. I even wrote to the Medical Council on the matter, though naturally they could not give an opinion or even advise.

What could I have possibly done further? May I say, in conclusion, that to mention even the name of Mr. Ward in connexion with "quackery" is ungenerous to say the least. He bears an honoured name, he is chairman—or has been—of the Harrogate Baths Committee; he is a well-known public man, besides being an able and scientific electrician, and you can have but little knowledge of him, or of myself, or I am sure you would not have made such scathing criticisms as all my actions in the matter have been above board; further, because I detest anonymity at all times, I beg to subscribe myself in full,

Yours faithfully,

J. STENSON HOOKER, M.D. Durh., &c.

44, Gloucester-place, W.

*** We publish Dr. Stenson Hooker's letter with pleasure. Personal knowledge of Dr. Hooker would not have assisted us in writing the article, for we had not the slightest conception of the identity of the medical man stated in the prospectus to have accepted office. We congratulate Dr. Hooker on his wise decision to retire from an undertaking connexion with which might have entailed trouble upon him. We do not say that it would have done so, any more than we have stigmatised the impending institution as fraudulent, or the late chairman of the Harrogate Baths Committee as a quack. We have said none of these things. We have criticised the prospectus of the Light Cure and Electro-Therapeutic Institute, believing that the undertaking might, for all that document showed to the contrary, be an undesirable one from a medical point of view. There was no guarantee in it that patients would *only* be treated upon medical recommendation. Dr. Hooker's view as to the necessity of such a limitation being set to the medical work of the institute is, we are glad to say, clearly the same as our own.—ED. L.

ANONYMOUS SLANDER.

A PERSON who signs himself "Minister of the Gospel" has addressed to the *Daily News* from Ramsgate a story of a local surgeon who operated for cataract upon an elderly female subject, causing her great suffering and producing no good result. According to the

reverend gentleman's story the surgeon said to him, "She will never recover her sight and I never thought she would, but I operated upon her just for a bit of practice." He asks, and appears to expect a negative reply, "Need I add a word to expose the brutality of the man?" The answer, of course, is that he certainly needs to add a word—in fact, several words. He needs to give the name and address of the surgeon in question. Our impression is that a "Minister of the Gospel" is an anonymous slanderer and we regret that this statement concerning him is deprived of the effect that it might otherwise possess by our being unable to look beneath his decent clerical veil.

THE VAGINAL DOUCHE.

To the Editors of THE LANCET.

SIRS,—Even in making a general statement I should be sorry to be inaccurate. I have consulted a bulky and well-illustrated price list dated 1900, with a supplement dated 1901. The terminal opening in about half of the sketches is distinct, in three others there is, possibly, no opening, and the remainder are too indistinctly drawn to say anything about them. I refer to Messrs. Down Brothers' price list—one of the best, I presume. I have inquired at several chemists and at one large "stores." The one article sold is Higginson's, with gum-elastic pipe with small holes, *one at the apex*. Further inquiry elicited, twice, several old pipes of different patterns, one or two closed at the point, but generally one of the several openings was in the centre. We have, then, an instrument of faulty construction in general use, and we are told on authority that the fault has been recognised for many years, yet neither patient, nor medical man, nor retailer knew that a better make was to be had.

A very ingenious instrument was described and figured by Mr. Haydn Brown in THE LANCET of Feb. 28th, 1903, p. 595. He rightly takes objection to the number of small openings which is usual. I hope medical men when prescribing lotions for vaginal use will take some trouble to advise their patients regarding the kind of instrument to get and the way to use it—that is if they believe with me that some untoward results *post* syringing are occasionally *propter* syringing.

I am, Sirs, yours faithfully,

Dec. 19th, 1903. G. CRICHTON.

THE THRIFT OF THE SALVATION ARMY.

To the Editors of THE LANCET.

SIRS,—Mr. Griffin Wilkes has drawn attention in your columns, under this title, to one of the greatest evils in the work of the Salvation Army. While many of their "officers" travel first-class, and while some go on tour round the world or to America in luxury, the half-fed anæmic girls who carry articles for sale from door to door receive a miserable pittance, their local speakers frequently have a struggle to make ends meet, their typists and shorthand writers receive about half of what they would get elsewhere, and their maternity nurses are paid, I am told, £10 per annum.

Why should Mr. Coombs wish to know full particulars of the uterine functions of the female candidates for enlistment in the army? I should have thought it sufficient that the candidates were "strong and able for their work," without any particulars being given regarding their different organs. Inclosing my card,

I am, Sirs, yours faithfully,

Dec. 19th, 1903. M.D.

*** Mr. Coombs not being a medical man is not in a position to form a medical opinion as to the physique of young women from reading obstetric details concerning them. This sort of information might well be withheld from him.—ED. L.

THE CORONER, THE PATHOLOGIST, AND THE GENERAL PRACTITIONER.

MR. T. LAUNCELOT ARCHER of Vincent-square, Westminster, was summoned by the police on Dec. 15th to see a woman found dead in her chair. Mr. Archer later (probably the next day but the letter is undated) received a communication from Mr. Troutbeck asking to have the circumstances bearing on the cause of death communicated to him. Mr. Archer very properly replied that if Mr. Troutbeck wanted his evidence he had ample legal powers to obtain it. On Dec. 17th Mr. Troutbeck replied that he could not understand Mr. Archer's letter, which he considered to be "founded on the misconception that information given to the coroner in preparation for an inquest is evidence. At the present moment I have no information whatever as to whether if a guinea is paid to you out of the rates for evidence you are in a position to give any information to justify that expense. Gentlemen who claim payment for giving expert evidence must first show that they have expert evidence to give." This, of course, is not the law, but Mr. Troutbeck's reading of the law, and Mr. Archer very properly replied that no information could be required from a medical man except expert evidence. Mr. Archer promptly repudiated the uncourteous and unfortunate suggestion that he was only looking for a fee. We understand that the inquest was held on Monday morning last, when Dr. Freyberger performed a post-mortem examination and found an enlarged heart and a full stomach. The case hardly seems to have been of such pathological rarity as to necessitate the withdrawal of the post-mortem examination from the medical man last in attendance.

A POINT IN SANITARY LEGISLATION IN INDIA.

To the Editors of THE LANCET.

SIRS,—I have a patient in a family living in a suburb ten miles from Bombay. In the immediate vicinity of their bungalow is a plot of land used for cultivation, yielding a certain annual revenue to Government, besides being the means of subsistence to the owner himself. For purposes of cultivation manure has to be employed, consisting of a large quantity of fish, of fat, and other refuse matters which when thrown on the soil give off a sickening odour, creating a nuisance to the neighbours who seriously apprehend injury to their health thereby. As this is a question affecting the public health I am curious to know, Sirs, whether the aggrieved parties could secure any redress in court which to their satisfaction should amount to nothing less than a complete prohibition by the court of the cultivation of the adjacent plot of land. It would be interesting to learn if the court would really press such an order which put into effect would deprive an agriculturist of his only means of livelihood for himself and his family, to say nothing of the loss of a definite annual land revenue to Government, which counts a great deal in an agricultural country like India.

I should be so grateful, Sirs, if any of your readers interested in sanitary law would oblige me with the necessary information asked for.

I am, Sirs, yours faithfully,

Dec. 4th, 1903. M.

*** The matter is one for the opinion of a lawyer in India. In England such abuses can generally be abated by legal process.—ED. L.

THE ACTION OF SULPHONAL.

To the Editors of THE LANCET.

SIRS,—I should be glad to know from any of your readers if any observations have been made regarding the action of sulphonal on the mucous membrane of the gastro-intestinal tract.

I am, Sirs, yours faithfully,

Dec. 19th, 1903. B. H. W.

A QUESTION OF FEES AT A CORONER'S INQUEST.

"VEXATUS" writes:—

"I should be obliged for your opinion on the following: A is house surgeon at a small hospital and gives chloroform whilst B, an honorary surgeon, operates on a child. The child dies under the anæsthetic and as a result of it. The coroner asks B to attend the post-mortem (on the heart only) and to give evidence at the inquest, saying he leaves it open to B to refuse if he prefers. A says he will be much obliged if B will be present at the post-mortem and inquest. B is accordingly present at both. At the conclusion of the inquest the coroner gives B a cheque for two guineas, saying he leaves it to him to give A anything that B thinks he (A) may deserve. Supposing B had been subpœnaed would he have been entitled to two guineas in fees? If so, should he give anything to A? As honorary surgeon should he disclaim a coroner's fee. Should the coroner's evident wish carry weight—a private wish as to the disposal of public money."

We do not quite follow this story. There is no reason why B should disclaim a coroner's fee as honorary surgeon and we may remark that he is lucky to get a fee at all for giving evidence in respect to a death that occurred in a public institution. The coroner here exercises his discretion very properly and we think that his indicated wish should carry weight.

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Should any of your readers contemplate purchasing a motor-car, I would strongly recommend that they should obtain a copy of the *Automobile Club Journal* of Dec. 17th. I think they will see that there is no pneumatic tyre in the market which is not calculated to add largely to the worries and anxieties of professional life.

I am, Sirs, yours faithfully,

Stratford-on-Avon, Dec. 19th, 1903. HARRY LUPTON.

THE TREATMENT OF PEDICULI CAPITIS.

"E." asks for the advice of his brother practitioners in a case where the pediculi having been removed by the usual treatment the nits remain with unusual obstinacy. Methylated spirits, ether, and infusion of quassia have all been used without any result.

Italia.—The Pharmaceutical Society and the Society of Apothecaries of London hold examinations for the qualification of dispensers. Lady dispensers are subject to the same tests.

L.R.C.P.—If our correspondent can prove a clear engagement he can sue for his fee in the county court. If he has anything in writing it may assist him in proving his case.

Lieut. W. S. Patton, I.M.S.—Our correspondent might apply to the St. John Ambulance Association, St. John's Gate, Clerkenwell, London, E.C.

Recently Qualified.—We do not understand the purport of the letter.

Delta.—We do not know of any such general hospitals.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 23rd, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Dec. 17	29·74	S.E.	...	49	47	41	42	44	Foggy
,, 18	29·79	S.E.	...	48	46	42	42	43	Foggy
,, 19	29·69	S.E.	0·01	46	44	42	42	43	Overcast
,, 20	30·03	S.E.	0·01	45	43	38	41	42	Overcast
,, 21	30·23	E.	...	50	49	38	41	42	Foggy
,, 22	30·23	S.W.	...	59	51	42	47	49	Overcast
,, 23	30·04	S.	...	47	45	44	43	44	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1903, which is completed with the issue of to-day, will be given in the next number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1903 will be ready shortly. Bound in cloth, gilt lettered, price 13*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s* 3*d*.

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During the week marked copies of the following newspapers have been received: *Poor-law Officers' Journal, Eastern Morning News, Westminster Gazette, Sussex Daily News, Dublin Times, Birmingham Post, Surrey Advertiser, Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, The Scotsman, Highland News, St. Petersburg Medicinische Wochenschrift, Isle of Man Times and General Advertiser, Evening News,* &c.

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